STATE POWER SECTOR
PERFORMANCE RATINGS

Final Report to the

Ministry of Power
Government of India

June 2006

CRISIL RATINGS
The Most Reliable Opinion on Risk

ICRA Limited

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1. BACKGROUND

CRISIL and ICRA have been mandated by the Power Finance Corporation Limited (PFC) at the instance of the Ministry of Power (MoP), Government of India to carry out a performance rating of the state power sector across all states. The initial report, which was finalised based primarily on the information available/made available till August 2002, was released in January 2003. The first review based on data available till mid August 2003 was released in January 2004 and the second review exercise based on data available till end December 2004 was released in April 2005. This is the third review based primarily on data obtained till December 2005.

Based on the feedback obtained from MoP and the utilities, as also the most recent developments in the sector, the parameters used for the rating exercise have undergone a few changes compared to the earlier exercises. The most significant change has been to assign 75% weightage to scores assigned to parameters that captured the "historical" position of the utility as on 31st March, 2005 and introduce two new parameters, each with a weightage of 12.5%, which are essentially of a qualitative nature designed to capture a) the ability of the sector to attain commercial viability on a stand-alone basis and b) the extent to which steps have been taken to introduce meaningful competition in the sector, which is vital for attracting fresh investments and provide accompanying benefits to consumers like lower tariff and better service standards.

The other major changes pertain to introduction of stringent negative marks against several parameters like timely filing of tariff orders, interface metering and implementation of key provisions of the Electricity Act, 2003. There were some other minor changes with respect to more explicit evaluation of progress with respect to usage of IT in metering and billing, "quality" of T&D network as reflected in variables like interruptions and DTR failure and so on.

On an overall basis, the parameters used and the weightages are as follows:

Parameter	Original	1st Review	2nd Review	Current Exercise (3rd Review)	
	Max.	Max.	Max.	Max.	Min.
I. External Factors	**40.00**	**30.00**	**32.00**	**20.25**	**(-) 9.75**
A. State Government related Parameters	*20.00*	*17.00*	*17.00*	*13.50*	*(-) 6.00*
B. Regulatory Process	*20.00*	*13.00*	*15.00*	*6.75*	*(-) 3.75*
II. Internal Factors	**60.00**	**70.00**	**68.00**	**54.75**	**(-) 9.00**
C. Business Risk Analysis	*25.00*	*27.00*	*27.00*	*22.50*	*(-) 5.25*
C1. Generation	6.00	6.00	6.00	4.50	(-) 0.75
C2&3. Transmission & Distribution	19.00	21.00	21.00	18.00	(-) 4.50
D. Financial Risk Analysis	*30.00*	*23.00*	*20.00*	*15.00*	*(-) 0.75*
E. Others	*5.00*	*5.00*	*5.00*	*5.25*	*(-) 1.50*
F. Progress in attaining commercial viability	*NA*	*15.00*	*16.00*	*12.00*	*(-) 1.50*
Score on historical parameters	**100.00**	**100.00**	**100.00**	**75.00**	**(-) 18.75**
G. Sustainability of revenue model	*NA*	*NA*	*NA*	*12.50*	
H. Creation of a competitive environment	*NA*	*NA*	*NA*	*12.50*	
Total	**100.00**	**100.00**	**100.00**	**100.00**	**(-) 18.75**

The key aspects evaluated under each of the areas can be summed up as follows:

(a) **State Government**

- Progress in terms of implementing the key provisions of the Electricity Act, 2003, which would include things like constitution of special courts for trial of theft related cases, designation of assessing officers and constitution of district level committees
- Progress in attaining 100% rural electrification
- Extent of dependence on subsidy payments *(negative marks of upto –6 were awarded to any utility that is dependent on subsidy support for any category of consumers)*
- Structural adjustment support provided to the sector

- Success in increasing revenue realisation through implementation of Anti-Theft measures
- Success in terms of increasing generating capacity, either in the State Sector or through creating an enabling environment for private producers

(b) **Regulatory Process**

- Timeliness in terms of issuing tariff orders (*negative marks were awarded for tariff order not released before 31st March of 2005, and non filing of ARR before 3oth November of the previous year, irrespective of the reasons for the same*)
- Actual implementation of tariff orders as well as other directives that may be contained in the order
- Nature and scope of the tariff order, which would include both tariff and non-tariff issues
- Implementation of the various provisions of the Electricity Act from a regulatory perspective.

(A negative marks of 5 is assigned to States which are yet to set up an SERC)

(c) **Business Risk Analysis**

- Performance of the power plants in terms of PLF, Availability Factor, Auxiliary Power Consumption
- Progress in distribution reforms with respect to key areas like metering all 11 kV feeders, energy audit and increasing the quantum of units billed on metered basis.(*Negative marks of upto 1 is awarded to any state which is yet to complete 90% metering at 11 kV level*)
- Quality of T&D network as reflected in Availability factor, nos of outages, average duration of outages, Distribution Transformer Failure rate .
- Also, the scoring against the energy parameter has been capped at the percentage of DTR s metered since comprehensive energy audit is possible only after all distribution transformers and consumers are also metered.
- Manpower levels, both absolute compared to normative parameters as well as trends in the same, with a negative marking of 1 in case the trend is adverse
- Aggregate Technical and Commercial losses (*Negative marks of –2.5 is awarded for any deterioration in AT&C loss levels*)

(d) **Financial Risk Analysis**

- Coverage of costs through revenues
- Track record of debt servicing
- Trends in receivables and power purchase / fuel creditors
- Progress in terms of funding pension and gratuity liabilities

(e) **Others**

- The current quality of information systems,
- Availability of audited accounts within a reasonable time frame (six months)
- Extent to which the utilities have been able to computerise their metering and billing systems
- Progress in terms of usage of SCADA, consumer indexing through GIS
- Whether a Business Plan has been prepared and approved by the State Government.

(f) **Progress in attaining Commercial Viability**

- Gap between Average Revenue Realised (ARR) and Average Cost of Supply (ACS) both in absolute and percentage terms. Further ARR is computed on the basis of cash collections since it is cash flows alone that enables an utility to meet operational expenditure, service debt and invest the surplus, if any in modernization / expansion projects.
- Trends in cash loss reduction compared to 2001-02 as base year

(g) Sustainability of the revenue model of the power sector

- Extent to which the revenue model of the state power sector is dependent on the state subsidy support
- Trends in the level of subsidy requirement from the Government
- Ability of the State Government to sustain the subsidy given the states fiscal position
- Any policy measures that could have a major impact on the viability of the sector going forward
- Ability of the state to sustain improvement in financial position in case the improvements are on account of certain one-time events, which may not necessarily recur in future

(h) Creation of a competitive environment

- Time frame for introduction of open-access in the state.
- Extent to which open-access is facilitated or hindered through levy of excessive wheeling charges, cross-subsidy surcharge
- Policies regarding captive generation – whether there are any discriminatory ED or excessive cross-subsidisation surcharge impacting the viability of captive generators
- Progress in terms of segregating the sector on functional lines
- Progress in terms of introducing intra-state ABT
- Progress in terms of procuring power through competitive bidding by the DISCOMs

It needs to be emphasized that against the parameters (g) and (h), scoring was not parametric in nature, but a qualitative evaluation that reflects the rating agencies view on the subject.

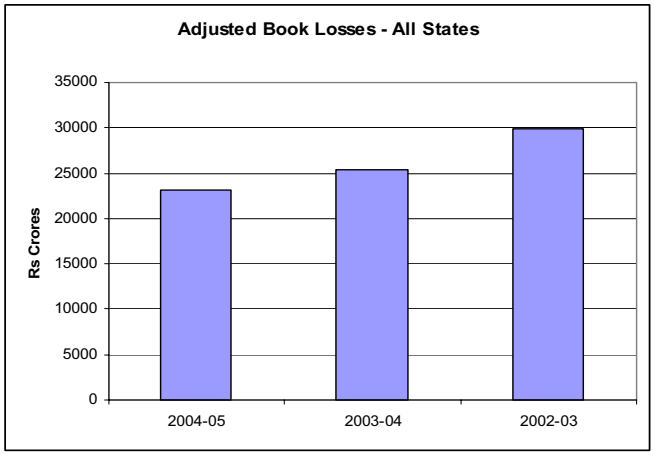
Information Sources: The performance assessment has been dependent on operational and financial data available with the SEBs/Utilities or as available from other sources such as PFC/Planning Commission/Central Electricity Authority/ National Productivity Council and other sources in the public domain.

As a rule, a Zero score has been assigned against all parameters where authentic data was not available.

2. KEY FINDINGS

Overall adjusted book losses, though substantial in absolute terms, have been showing a decline:

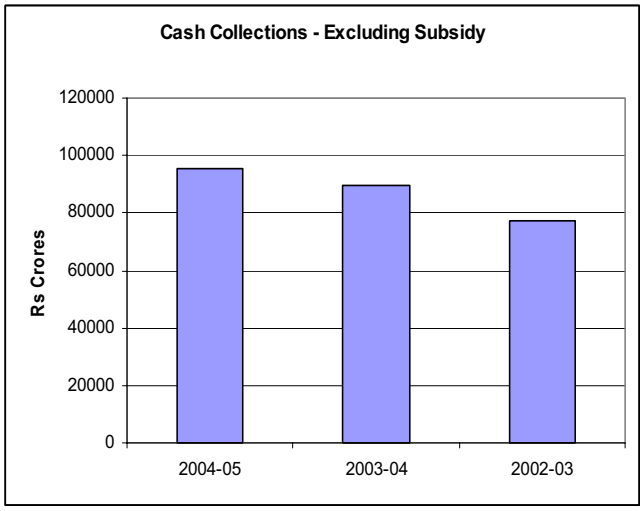
For the purpose of this study, Adjusted Book Losses, which measures the profit or loss after excluding subsidy support from the State Governments and also factors in the build-up of receivables (in essence Cash Collections excluding subsidy less Expenses including Depreciation) has been used as the key determinant of a utilities financial health. The Adjusted Book Losses for all the states[1] put together have shown a steady decline, as the following Exhibit shows.



A common underlying theme for improvement has been increase in cash collections

While the reasons for the improvement varies from state to state, one common underlying theme has been the sharp improvement in cash collections driven by

- Significant progress in energy audit, interface metering and anti-theft drivers
- Investments in system strengthening and modernisation
- Control over supplies to Agriculture / Irrigation Pump sets through measures like separation of feeders
- Tariff increases in case of some states with the constitution and



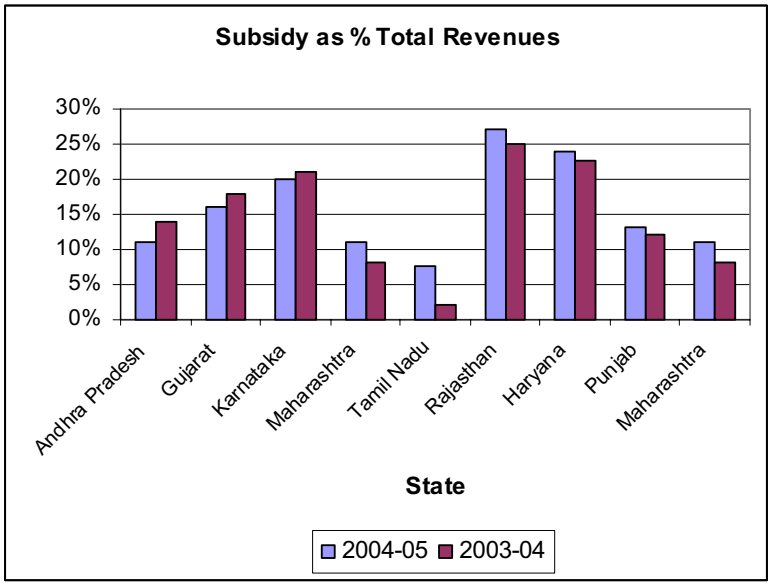
[1] Excluding Orissa and Jharkhand for which data was not available

functioning of State Electricity Regulatory Commissions
- Revenues from trading in power in respect of the Eastern and North Eastern states.

The improvement in cash collections is all the more significant given that one of the major problems afflicting the sector has been its inability to recover dues from consumers, especially State Government departments and Agricultural consumers. The increase in cash collections has also enabled the State sector utility to improve upon their payment towards power and fuel suppliers, and also meet their debt servicing requirements. Apart from three or four states, most other states are today regular in meeting the dues from funding agencies like Power Finance Corporation and Rural Electrification Corporation.

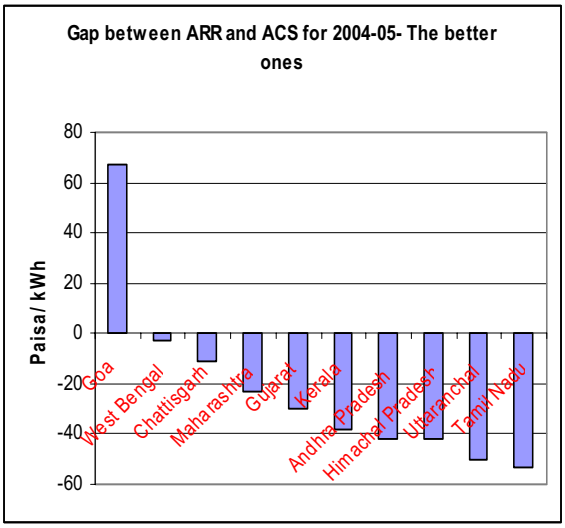
Dependence on subsidy presents a mixed picture

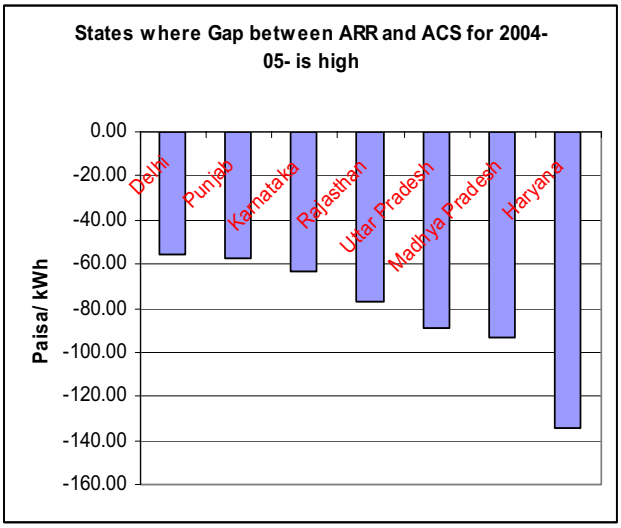
Some of the major states, which still continue to have significant dependence on subsidy from State Government, include Andhra Pradesh, Gujarat, Karnataka, Rajasthan, Haryana, Punjab and Maharashtra. The dependence on subsidy support shows a mixed picture, while it has declined in case of Andhra Pradesh, Gujarat and Karnataka, it has shown an increase for the other states mentioned. The relatively high dependence on subsidy (at close to 25% of the total revenues) for some of these states is a cause for continued concern. Policy pronouncements such as free power announced in certain states may result in continuing dependence on such subsidy support.



Without subsidy, the gap between ARR and ACS remains high, except for the states of Goa West Bengal and Chattisgarh. The trend is however positive.

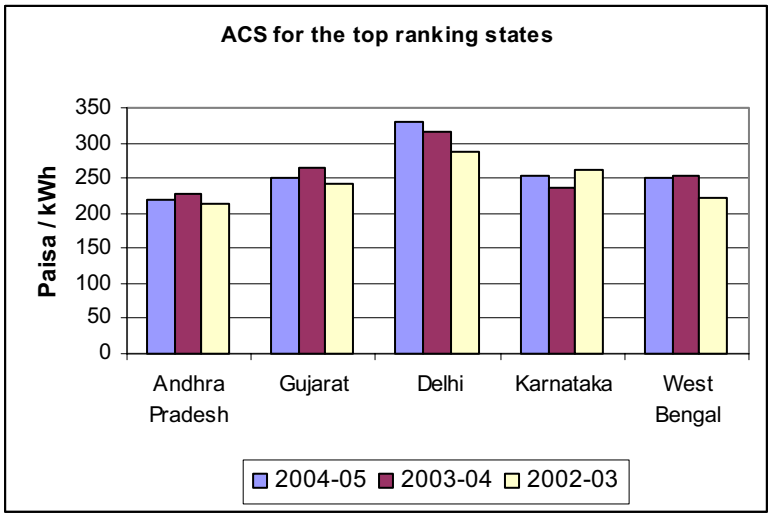
As a direct corollary of the dependence on subsidy as mentioned above, the gap between ARR and ACS remain high for all states except Goa, West Bengal and Chattisgarh. The trend is, however, positive for most states.





Most of the top ranking states have been able to maintain control on ACS (Average Cost of Supply), despite the steep increase in fuel cost

Driven by increase in efficiency improvements, renegotiation of high cost PPAs and decline in interest costs, most of the top ranking states have been able to keep control on the Average Cost of Supply, notwithstanding the steep increase in fuel costs that has taken place during the last two years. In fact, some of the states have been able to effect a marginal reduction in their ACS. This is demonstrated in the chart alongside.



A number of states have completed the unbundling of the sector on functional lines

The major states, which have completed the sector on functional lines during 2003-04 and 2004-05, include Gujarat, Maharashtra, Assam and Madhya Pradesh. Most of these states have also approved the Financial Restructuring Plan, which involves takeover of substantial liabilities of the erstwhile integrated entity, equity infusion and the like would help the utilities in further improving on their performance, going forward.

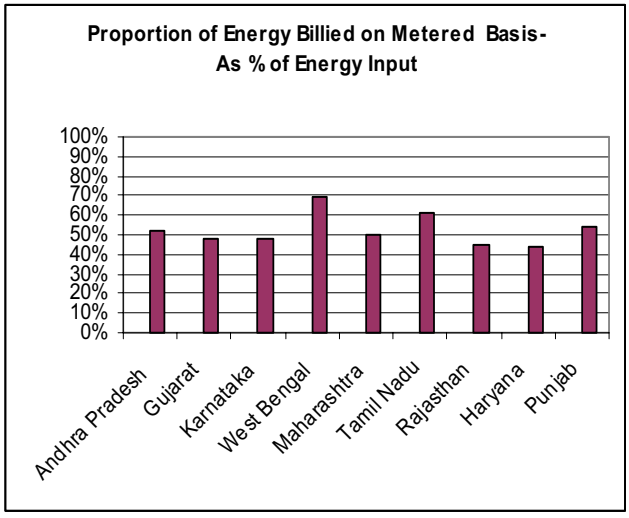
On the negative side, functional unbundling is yet to be completed in several major states like Kerala, Tamil Nadu, Punjab, Bihar and Chhattisgarh.

AT&C losses remain high, further progress in distribution reform to be critical

As the table below shows, despite improvements, AT&C losses remain high, there are several states whose AT&C losses remain above 30-40%.

Less than 20%	Between 20-30%	Between 30-40%	Above 40%
Goa	Andhra Pradesh	Karnataka	Delhi
Tamil Nadu	Gujarat	Kerala	Uttar Pradesh
	West Bengal	Assam	Bihar
	Himachal Pradesh	Meghalaya	Jharkhand
	Maharashtra	Chattisgarh	Madhya Pradesh
	Tripura	Mizoram	Arunachal Pradesh
	Punjab	Sikkim	Rajasthan
	Uttranchal		Haryana
			Manipur
			Nagaland
			Jammu & Kashmir

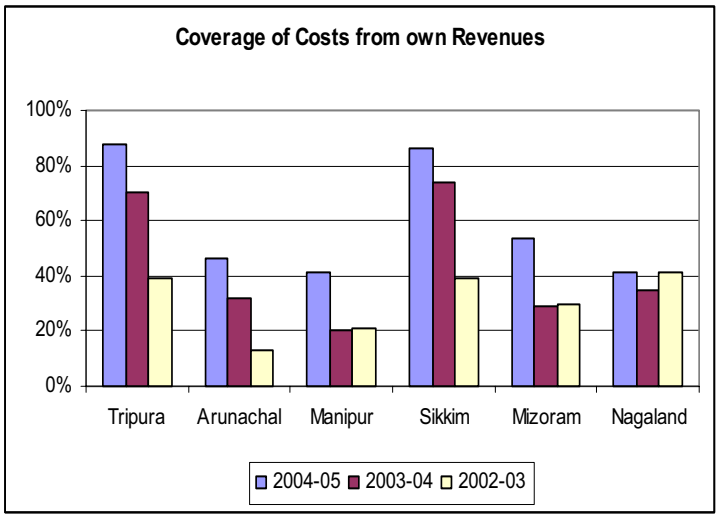
At the same time, considerable progress has been made in the area of distribution reforms, with completion of inter-face metering, consumer metering and initiation of energy audit. An area of concern is the low level of Distribution Transformer metering because of which comprehensive energy audit is hampered. The maximum extent of DTR Metering is around 25% for the states of Karnataka and



Maharashtra. Another area of concern is the low proportion of units billed on metered basis, usually arising from large un-metered agricultural consumption.

Some of the North Eastern states (Electricity Departments) have shown significant improvement in financials because of Trading & UI charges, however cost coverage still remain inadequate

Most of the North Eastern states have shown a major improvement in their financial position on the back of trading income and income earned from UI charges. Given the vast energy deficit, ability to trade in power does not seem to be in doubt, though the sustainability of UI charges remains to be seen. Despite improvements, the coverage of costs from own revenues remains grossly inadequate. Also, other reform measures, like setting up Regulatory Commission or restructuring and unbundling on functional lines have made virtually no progress in most of the states.



Timeliness of tariff order :

The importance of timely filing of the ARR and subsequent issue of tariff need not be emphasised. For the utility to recover its complete cost, benefit of new tariff order should be available for full year, delayed filing and delayed issue of tariff order deprives the entity to have approved cost recovery. This leads to issues such as lower cash flows, and consequent impact on working capital borrowings and possibly increased interest costs.

Overall timeliness of the issue of tariff order is captured in the following table

Before March 2005	Subsequent to Mar 2005	Did not file for 2005-06
▪ Andhra Pradesh ▪ West Bengal ▪ Kerala ▪ Orissa	▪ Delhi ▪ Karnataka ▪ Himachal Pradesh ▪ Assam ▪ Tripura ▪ Rajasthan ▪ Punjab ▪ Chattisgarh ▪ Uttaranchal ▪ Madhya Pradesh	▪ Gujarat ▪ Goa ▪ Maharashtra ▪ Tamil Nadu ▪ Haryana ▪ Megahalya ▪ Uttar Pradesh ▪ Bihar ▪ Jharkhand

Only four states out of the 29 have been able to get the tariff order for FY 2005-06 in the stipulated time i.e. before March 2005.

Many a reasons are propounded for not filing the ARR including such as no tariff hike is required on account say better operational performance, as well as preoccupation with other events like restructuring and reorganisation. However, we feel it is important that ARRs are filed every year since it provides several benefits to all stakeholders, like for instance proper scrutiny of all costs as well as sudden shocks because of any policy change on the part of the regulator.

What also needs to improve is the time between filing and the issue of order. Here the problem arises mainly on account of time taken for furnishing additional information and clarification. Improvement in the MIS at the utilities is an absolute imperative for improvement in tariff determination process. On an all India basis marginal improvement has been seen on this issue.

Implementation of the directives by the utilities

Another area where improvement ought to be achieved is the implementation of the directives of the Commission.

Some of the areas where directives have been issues almost by all Commissions include:

1. Metering
2. Energy audit
3. Improvement in T&D losses
4. Improvement in collection performance

5. Improvement in level of service to the consumers.

Across all the states that have been analysed, there seems to be considerable scope in terms of achieving better compliance with the directives issued.

Limited financial and functional autonomy to the unbundled entities

While several states have unbundled the sector on functional lines, a key concern is also the limited progress in terms of granting autonomy –both functional and financial- to the DISCOMs, which have been formed as a result of the unbundling of the sector. There are also concerns on the extent of 'capacity building' that has been carried out in the DISCOMs to enable them to function independently and effectively.

3. STATES THAT HAVE SHOWN SIGNIFICANT CHANGE IN RATINGS

Some of the major movements in inter-se ratings, which may or may not be fully reflected in the scores given the changes in parameters and weightage compared to the previous rating exercise can be summed up as follows:

IMPROVEMENTS

GUJARAT

While the state of Gujarat has remained at the 2nd position, its performance has shown a significant improvement. Some of the key strengths that ICRA has noted in the current surveillance exercise are as follows:

- Signifcant reduction in losses from Rs 1932 Crore in 2003-04 to Rs 1035 Crore in 2004-05. Consequently, gap between ARR and ACS has reduced from 47.80 paisa/ kWh to 29.78 paisa/ kWh.
- Continued support from the Government of Gujarat (GoG) in terms of reforming and restructuring the sector.
- Formulation of the Financial Restructuring Plan (FRP) which has been approved by the GoG. The same involves substantial concessions from the GoG

The key drivers for the improved performance of GEB has been optimisation of power purchase costs, overall improvement in operational efficiency, savings in interest costs because of debt restructuring and significant improvement in cash collections. The average cost of service has come down from Rs 4.15 per unit in 2003-04 to Rs 3.53 / unit in the first three-quarters of 2005-06 while the average realisations has gone up Rs 2.84 / unit to Rs 2.98 / unit, without any tariff increase. Similarly collections has improved significantly over the last three years, from Rs 8957 Crore in 2002-03 to an estimated 11506 Crore in 2005-06, again with out any tariff increase. As a result, there has been a marked improvement in financial position, losses have reduced from 1932 Crore in 2003-04 to Rs 1035 Crore in 2004-05, as per the unaudited 9 month results for 2005-06, GEB has made a net profit of Rs 49 Crore and cash profit of Rs 714 Crores.

Going forward, we expect these improvements to be sustained, as the operationalisation of the companies formed as a result of unbundling of the sector and the Financial

Restructuring Plan recently approved by the Government lay down very clear performance targets that encourage efficiency improvements. The companies, as pat of the "e-Urja" project are also implementing end-to-end IT solutions and Business Process reengineering.

DELHI

The performance rating scores and the resultant ranking has remained stable for Delhi inspite of tightening of the benchmarks and introduction of negative scores. The factors supporting this stability include:

- Significant reduction in the gap between ARR and ACS from Rs. 1.04/ kwh in 2003-04 to Rs. 0.56/kwh in 2004-05.
- High cash coverage of expenditure at over 92 percent.
- No direct subsidy being provided to any class of consumers by the state government.
- Satisfactory progress against targets laid out in Electricity Act 2003 relating to state government's responsibility.
- Reduction in AT&C losses from 49 percent to 43 percent.
- 100 percent consumer metering with high proportion of electronic meters.
- Reduction in distribution transformer failure rate from almost 4 percent in 2003-04 to below 1 percent in 2004-05. Correspondingly, the quality of power has improved with reduction in number and duration of outages.
- Strong adoption of IT by the distribution companies, especially relating to metering, billing and MIS.

WEST BENGAL

The state of West Bengal has gained three ranks to move from the 8th position to the 5th position. Some of the key strengths that ICRA has noted in the current surveillance exercise are as follows:

- Generation of cash profit in 2004-05 due to trading operations and reduction in T&D losses. The gap between ARR & ACS has reduced to 3 paisa for the year ended 2004-05.
- Substantial improvement in ATC loss reduction (25.3% in 2004-05 Vs 33.3% in 2003-04) due to comprehensive energy audit, strict implementation of Anti-Theft laws and vigorous collection efforts.
- Satisfactory progress against the targets laid out in Electricity Act, 2003 with respect to constitution of special courts, district level committees and designation of Assessing officers

- Satisfactory completions of interface metering, though DTR metering project has been delayed.
- Relatively high proportion of sales on metered basis compared to peers

WBSEB has limited dependence on the GoWB as reflected from the fact that it has not got any subsidy from the GoWB in the last four years. With effect from February 1, 2006, GoWB has decided to provide a subsidy of Rs. 200 million to WBSEB so that tariff for agricultural consumers could be brought down to Rs. 1.25/unit from Rs. 1.65/unit currently. Since the subsidy involved is very small (Revenue Receipts as per Budgetary estimates for 2005-06 is 42,668 Crore[2]) it is not expected to have an adverse impact on the fiscal health of the State Government.

MAHARASHTRA

The ranking of Maharashtra state has improved from 12th position in 2005 to 8th in the present ranking. The Maharashtra power sector has performed well in the following aspects.

The erstwhile MSEB was unbundled on June 4, 2005 into 4 different entities. The trading function also has been separated from the transmission company. The state's overall ratio of subsidy to total revenue from the power sector is low at 11 per cent in 2004-05. The utilities have performed well in terms of progress in attaining commercial viability; the gap between Average Revenue Realisation (ARR) and Average Cost of supply (ACS) has come down from 32 paise in 2003-04 to 23 paise in 2004-05. The adjusted book loss has decreased to Rs. 16.38 billion in FY 2004-05 from Rs. 31.67 billion in FY 2001-02. This is mainly on account of reduction in debtors level to a significant extent. MSEB's gearing improved to 1.18 times as on March 31, 2005 from 1.21 times on March 31, 2004. This is mainly on account of the reduction in debt from GoM and others. The aggregate technical & commercial losses (ATC) have reduced from 33 per cent in 2003-04 to 27 per cent in 2004-05. This is due to increase in overall revenue as well as improvement in cash collection.

One main area where the state has lagged is the issue of capacity additions. During the last 5 years there have been no addition to generating capacity, which has led to huge demand, supply gap to the extent of 4500 MW during peak hours in the state leading to load shedding across the state. To some extent problem has been mitigated by DSM (Demand side management) techniques as well as intense efforts to procure power. On a long-term horizon, GoM has stepped up the efforts to add capacity.

The state Government continues to provide subsidy to agricultural sector and partial subsidies to the power loom sector. The amount of subsidy has increased from Rs.11.0 billion in 2003-04 to Rs.15.7 billion in 2004-05. This is 17% of the GoM's deficit.

[2] Source: RBI publication "State Finances : A Study of Budgets of 2005-06"

Reduction in losses and lowering of subsidy outflow would lessen the burden of power sector on the state exchequer.

KERALA

The State of Kerala has moved up from the 16th position to the 9th position. The areas that contributed towards is a continued higher than average score on transmission & distribution parameter such as: showing good progress in interface metering, units billed on metered basis, low distribution transformer failure rate etc; improvement in the financial risk scoring primarily driven by a revenue cost coverage of more than 100% in 2004-05, reduction in adjusted book loss in 2004-05 and a sharp decrease in the difference between the average revenue realised and cost in 2004-05 resulting in a higher score on the commercial viability parameter. Strong monsoon in 2004-05 certainly helped Kerala in higher hydel generation; thereby resulting in lower purchases of costly power from outside.

However the State has scored lower than last year on the State Government and SERC related parameters. GoK has provided limited transitional support to KSEB, not released the subsidy for 2004-05. Efforts towards capacity addition have also been sluggish. Further certain targets mandated by the Electricity Act 2003 have yet to be addressed by the government. Reduction in cross subsidies and rationalisation of power tariffs to reflect cost of supply are yet to be achieved.

ASSAM

The state of Assam has moved up six notches from 17th to the 11th position. Some of the key strengths that ICRA has noted in the current surveillance exercise are as follows:

- Substantive reforms and restructuring measures for the state power sector- ASEB has been unbundled on functional lines and the successor entities have been operational during FY 06.
- Substantial financial assistance from Asian Development Bank (ADB) for financial and T&D reform measures.
- Assumption of several outstanding liabilities of ASEB by GoA in FY 2004-05 and FY 2005-06 will improve ASEB's liquidity position.
- Operating losses, on accrual basis, have by and large shown a downward trend since 2001-02 while cost coverage on both accrual and cash basis have shown an improvement in 2004-05.

UTTARANCHAL

The State of Uttaranchal has moved up from the 21st position to the 15th position. One of the areas that contributed towards this is a higher score on transmission & distribution parameter compared to last year; consumer metering is high at 92 per cent,

of which 88 per cent are fitted with electronic meters. However energy audit efforts are hampered by low DTR metering which was at 27 per cent as on January 31, 2006. Also DTR failure rate has been high, indicating inadequacy of the transformer capacity.

On financial performance, the shortfall between average revenue realised and average cost of supply has come down to 0.50 paise in 2004-05 from 0.82 paise in 2003-04 due to improved cash collections as well as reduction in operating expenses. Adjusted book losses also reduced to Rs. 2137 million in 2004-05 from Rs. 3125 million in 2003-04 leading to a higher score on commercial viability compared to last year. At present GoU does not provide any subsidy to any category of consumers but in a scenario where cross subsidies are reduced and revenues-cost coverage is insufficient, GoU may be forced to provide for subsidies for BPL / domestic connections.

Another area for improvement is better compliance with the Commission's directives; past non–compliance resulted in Commission setting up a committee of experts to examine the quality and extent of compliance.

TRIPURA

The state of Triupra has moved up by 6 positions from 21 to 15. Key drivers of the improved rating have been

- Significant income from trading and UI charges, which alongwith regular tariff hikes in the last two years and steps to control theft, has led to considerable improvement in the financial position of the Board.
- While the gap between ARR and ACS has reduced from 138 paisa in 2002-03 to 23 paisa in 2004-05, Adjusted Book Losses has reduced to Rs 26.83 Crore from Rs. 93.0 Crore during the same period.
- Fully functional SERC, which has been coming out with various regulations.
- Reasonable progress in terms of reforms, only Electricity Department in the North East to have corporatised, set up a functional ERC and also set up Special Courts for trial of theft related cases.

Stable

ANDHRA PRADESH

The performance rating scores and the resultant ranking has remained stable for Andhra Pradesh inspite of tightening of the benchmarks and introduction of negative scores. The factors supporting this stability include:

- Improvement in cash coverage of expenditure from 89 percent in 2003-04 to over 96percent in 2004-05.
- Strong regulatory process with timely filing of ARRs and issue of tariff orders.
- Satisfactory progress against targets laid out in Electricity Act 2003 relating to state government's responsibility.
- Strong and improving operational performance of the generating plants; increase in PLF from 86 percent to roughly 90 per cent and Plant Availability from 91 percent to 93 percent.
- Improvement in consumer metering.
- Reduction in subsidy levels in gross terms and as a percentage of the revenue of the utilities and the state budget.
- Reduction in the levels of fuel and power purchase creditors.
- Unbundling of the sector on functional lines with separation of trading function from the transmission company.
- Adoption of IT in a significant manner.

However, the continuing policy of the state government in providing free power to bulk of the agricultural consumers and the resultant subsidies has a significant negative impact on the overall scores for the state.

KARNATAKA

For Karnataka, even though there has been a marginal decline in the scores as per the current exercise compared to last year exercise, the overall ranking has remained stable at 4. The key factors responsible for this stability are:

- Strong cash cost coverage of expenditure at over 90 percent in 2004-05, which have improved from around 88 percent in 2003-04.
- Low and reducing manpower levels.
- High household electrification at over 97 percent.
- Low cross-subsidy surcharge facilitating 'open access' in the state.
- Strong and marginally improving operating profile of the generation capacity.
- Well-developed regulatory framework with necessary regulations as mandated by Electricity Act 2003 already in place.
- Unbundling of the sector on functional lines with separation of trading function from the transmission company.
- Satisfactory progress against targets laid out in Electricity Act 2003 relating to state government's responsibility.

However, the state utilities continue to have high AT&C losses at over 35 percent along with high DTR failure rate at over 15 percent indicating requirement of significant investments in the up-gradation of the T&D network. Further, the state distribution utilities have a high dependence on

state subsidies, which the state government has been able to support due to its surplus revenue budget position.

DECLINES

TAMIL NADU

The State of Tamil Nadu has moved down from the 5th position to the 10th position. The prime reasons for this shift are as follows:

On the external factors, which refer to the track record of the State Government and the Regulatory Process, Tamil Nadu's progress has been rather slow; this is reflected in much lower scores on these parameters compared to last year. Commercial viability and sustainability of the sector also continue to be an area of concern. The State Government's limited financial support to the power utility along with free power to agriculture has resulted in increasing subsidy burden every year, thus undermining the commercial viability of the sector in the State. Tamil Nadu, which began the reforms process relatively late, is yet to gather momentum. The State Government is still to adhere to the targets mandated by the Electricity Act 2003; it is yet to unbundled along the functional lines and the Regulatory Process needs to gather momentum in terms of timely filing of tariff petitions by the utility, and thus enabling the SERC to take a view on revision of tariffs to reflect cost of service. Also a higher gearing, increase in accumulated losses, lower revenue cost coverage against last year show a marginal deterioration in the financial position of the utility.

However, Tamil Nadu continues to score higher than average on the generation, transmission & distribution parameters reflecting strong business performance in terms of sound operating performance of thermal plants, capacity addition, completion of inter-face metering, low distribution transformer failure rate.

CHHATTISGARH

The State of Chhattisgarh has moved down from the 10th position to the 14th position. The prime reasons for this shift are as follows:

The State has scored lower on the State Government related parameter compared to last year. The Government of Chhattisgarh (GoCG), though, has been proactive in inviting investors to set up generation capacity in the state to make Chhattisgarh a power hub, it is yet to implement certain targets mandated by the Electricity Act 2003 like functional unbundling and constitution of special courts. CSEB's dependence on state subsidy has been limited but increasing competition

from open access and captive generation may force CSEB to reduce HT and industrial tariffs and increase agricultural and domestic tariffs. This may result in higher demands of subsidy from the State government, unless tariff for the subsidized category are brought closer to the cost of supply. Further spread between average revenue realized and cost of supply deteriorated to a loss of 11 paise per unit from a surplus of 5 paise in 2003-04. This is certainly an area where CSEB needs to focus for continued sustainability.

However, the State maintained its scores on the generation, transmission & distribution parameters as last year. For instance the operational parameters of CSEB's thermal plants like Plant Load Factor (PLF), availability, and auxiliary power consumption levels have been improving following the refurbishment of the plants, agricultural load continues to be a small component of overall energy sales resulting in a favorable ratio of metered sales to overall energy handled in the system and a lower AT&C loss level. The metering at the consumer end as well as DTR end for a better estimation of the energy flow in the system are certain areas where improvement will lead to better scoring.

UTTAR PRADESH

The inter-se ranking of the state of UP has gone down by 9 notches from 9th to the 18th position. Some of the key slippages that ICRA has noted in the current surveillance exercise are as follows:

- Non-timely filing of ARRs have resulted in no tariff orders being issues in FY 2006. In ICRA's opinion this will have an adverse impact on the state sector's financial position.
- Lack of meaningful progress on distribution reform on ground.
- Continuing weak financial position of state level utilities with key indicators like ARR-ACS gap, cost coverage and ABL actually worsening during FY 05 and likely to worsen further in FY 2006.
- Receivables position is showing further deterioration resulting in increased AT&C losses in FY 05.

HARYANA

There has been a significant decline in the scores assigned as per current exercise to Haryana compared to last year exercise resulting in a drop in overall ranking for the state from 14 to 19. The key contributors to the decline include:

- A high and increasing level of subsides; almost fives times the state revenue deficit in 2004-05.
- Reduction in coverage of expenditure from cash revenue other than subsidies; from 73 percent in 2003-04 to 63 percent in 2004-05. As a result, the gap between ARR and ACS has increased from Rs. 0.95/kwh to Rs. 1.34/kwh in the same period.

- The receivables levels have increased from 185 days of sales to 215 days of sales.
- Significant delays in filing of ARRs and subsequently, issue of tariff orders.

4. SCORES ASSIGNED

The scores assigned to the states / Electricity Department in June 2006 exercise is as below:

Rank	State	State Govt.	Regulatory Process	Generation	T&D	Financial Risk	Others	Commercial Viability	Total Part I	Sustainability of state power sector revenue model	Creation of competitive environment	Total Part II	75% of part 1	25% of part 2	Final scores
		PART I								PART II			TOTAL SCORES		
1	Andhra Pradesh	4.70	7.75	5.00	12.77	14.25	5.07	6.20	**55.74**	32.00	24.00	**56.00**	41.81	14.00	**55.81**
2	Gujrat	5.31	3.00	4.25	10.09	11.00	5.50	6.80	**45.95**	40.00	40.00	**80.00**	34.46	20.00	**54.46**
3	Delhi	10.49	4.50	3.00	11.80	8.50	5.00	6.20	**49.49**	38.00	17.00	**55.00**	37.12	13.75	**50.87**
4	Karnataka	7.03	3.85	5.00	8.70	9.63	3.55	2.80	**40.56**	34.00	32.00	**66.00**	30.42	16.50	**46.92**
5	West Bengal	3.47	7.00	1.25	8.71	6.50	3.86	12.20	**42.99**	40.00	16.00	**56.00**	32.24	14.00	**46.24**
6	Goa	3.70	-3.00	0.00	13.80	13.00	0.50	16.00	**43.28**	50.00	0.00	**50.00**	32.46	12.50	**44.96**
7	Himachal Pradesh	3.72	4.50	5.00	14.45	7.63	2.95	3.20	**41.45**	32.00	16.00	**48.00**	31.09	12.00	**43.09**
8	Maharashtra	2.78	1.25	3.00	5.47	10.00	2.25	7.80	**32.55**	20.00	24.00	**44.00**	24.41	11.00	**35.41**
9	Kerala	-1.31	2.25	1.75	12.93	6.50	2.92	6.80	**31.84**	16.00	15.00	**31.00**	23.88	7.75	**31.63**
10	Tamil Nadu	-1.49	1.50	3.50	13.47	8.38	0.73	3.20	**29.29**	16.00	15.00	**31.00**	21.97	7.75	**29.72**
11	Assam	7.00	3.15	0.50	5.95	5.50	2.25	5.60	**29.95**	8.00	16.00	**24.00**	22.46	6.00	**28.46**
12	Rajasthan	6.43	4.00	5.00	0.00	6.00	3.50	-1.20	**23.73**	16.00	24.00	**40.00**	17.80	10.00	**27.80**
13	Punjab	-1.05	-0.25	4.38	8.45	7.88	2.25	4.60	**26.25**	16.00	16.00	**32.00**	19.69	8.00	**27.69**
14	Chhattisgarh	-2.74	4.00	3.16	6.60	6.51	0.87	1.20	**19.60**	32.00	19.00	**51.00**	14.70	12.75	**27.45**
15	Uttaranchal	3.04	4.00	0.00	10.32	3.25	1.17	1.30	**23.08**	14.00	25.00	**39.00**	17.31	9.75	**27.06**
16	Tripura	5.53	-1.00	1.00	4.85	9.25	0.25	12.80	**32.68**	8.00	0.00	**8.00**	24.51	2.00	**26.51**
17	Meghalaya	1.50	-3.00	6.00	1.25	8.25	1.75	6.80	**22.55**	32.00	0.00	**32.00**	16.91	8.00	**24.91**

Rank	State	State Govt.	Regulatory Process	Generation	T&D	Financial Risk	Others	Commercial Viability	Total Part I	Sustainability of state power sector revenue model	Creation of competitive environment	Total Part II	75% of part 1	25% of part 2	Final scores
18	**Uttar Pradesh**	7.60	3.00	2.25	1.40	3.88	3.38	3.00	**24.51**	0.00	24.00	**24.00**	18.38	6.00	**24.38**
19	**Haryana**	2.00	2.50	3.25	3.70	4.13	2.75	-2.00	**16.33**	24.00	22.00	**46.00**	12.25	11.50	**23.75**
20	**Madhya Pradesh**	5.60	6.00	5.00	1.19	0.26	1.25	-1.00	**18.30**	18.00	15.00	**33.00**	13.72	8.25	**21.97**
21	**Orrissa**	3.25	5	3	3	0	0.75	0	**15.00**	16.00	24.00	**40.00**	11.25	10.00	**21.25**
22	**Sikkim**	0.83	-5.00	0.75	2.06	7.75	0.25	9.40	**16.04**	8.00	0.00	**8.00**	12.03	2.00	**14.03**
23	**Mizoram**	1.00	-5.00	2.50	7.00	3.00	0.00	1.00	**9.50**	0.00	0.00	**0.00**	7.13	0.00	**7.13**
24	**Jharkhand**	-1	0.5	0	-0.5	0	-1	0	**-2.00**	12.00	10.00	**22.00**	-1.50	5.50	**4.00**
25	**Arunachal**	-0.70	-5.00	0.00	-0.60	8.75	-1.50	3.60	**4.55**	0.00	0.00	**0.00**	3.41	0.00	**3.41**
26	**Nagaland**	1.65	-5.00	0.00	0.10	8.00	-0.50	0.00	**4.25**	0.00	0.00	**0.00**	3.19	0.00	**3.19**
27	**Bihar**	-0.80	-3.00	0.38	-0.90	2.50	-0.25	-2.00	**-4.08**	0.00	0.00	**0.00**	-3.06	0.00	**-3.06**
28	**Manipur**	-0.81	-5.00	0.75	-1.58	0.75	-1.00	-2.00	**-8.89**	0.00	0.00	**0.00**	-6.67	0.00	**-6.67**
29	**Jammu and Kashmir**	-2.23	-5	0	-2.45	0	0.1	0	**-9.58**	0.00	2.00	**2.00**	-7.19	0.50	**-6.69**

The scores assigned to the states / Electricity Departments during the last review exercise (March 2005) are as shown below:

Rank	State	State Govt.	SERC	Generation	T&D	Financial Risk	Others	Commercial Viability	Total
1	**Andhra Pradesh**	8.20	12.38	4.75	11.75	12.50	4.25	3.20	57.03
2	**Gujarat**	12.26	6.50	3.25	11.40	12.25	3.75	4.20	53.61
3	**Delhi**	12.88	10.88	2.25	11.65	10.00	4.25	0.00	51.91
4	**Karnataka**	9.73	9.25	5.00	10.50	9.13	3.25	4.60	51.46
5	**Tamil Nadu**	6.21	8.75	4.00	12.90	11.63	3.25	4.20	50.94
6	**Goa**	6.90	0.00	0.00	14.55	12.50	2.50	14.00	50.45
7	**Himachal Pradesh**	6.60	5.00	4.00	10.38	11.13	3.00	9.80	49.91
8	**West Bengal**	3.40	8.25	1.50	11.95	8.25	3.25	8.00	44.60
9	**Uttar Pradesh**	8.96	10.25	2.25	7.80	7.63	3.25	2.00	42.14
10	**Chhattisgarh**	3.98	0.50	3.25	6.30	9.38	0.50	16.00	39.91
11	**Rajasthan**	8.52	8.25	4.50	4.98	8.25	3.00	0.00	37.50
12	**Maharashtra**	2.75	7.75	5.00	5.70	8.75	3.50	3.80	37.25
13	**Punjab**	3.54	5.00	4.50	9.10	5.13	0.25	9.30	36.82
14	**Haryana**	9.40	8.13	3.50	5.25	6.38	2.50	0.00	35.16
16	**Tripura**	7.55	0.00	1.50	6.00	8.00	1.00	7.60	31.65
15	**Kerala**	3.75	4.25	1.25	12.13	5.00	3.50	1.60	31.48
17	**Assam**	6.42	7.90	0.50	5.50	3.00	2.00	2.00	27.32
18	**Meghalaya**	3.17	0.00	2.00	9.50	3.75	2.50	5.80	26.72
19	**Madhya Pradesh**	6.90	3.00	2.00	6.10	4.75	0.00	2.00	24.75
20	**Sikkim**	8.34	-2.50	0.75	1.13	5.75	1.00	4.60	19.07
21	**Uttaranchal**	5.90	6.25	1.00	2.95	2.50	0.00	0.00	18.60

Rank	State	State Govt.	SERC	Generation	T&D	Financial Risk	Others	Commercial Viability	Total
22	**Nagaland**	6.80	-2.50	0.00	2.25	7.25	1.00	1.00	15.80
23	**Orissa**	2.00	5.63	1.50	2.50	2.00	0.00	0.00	13.63
24	**Jammu & Kashmir**	7.80	0.00	0.75	0.63	0.00	0.25	0.00	9.43
25	**Arunachal Pradesh**	2.60	-2.50	0.00	0.00	5.00	0.50	3.60	9.20
26	**Mizoram**	4.00	-2.50	0.50	4.88	0.00	1.00	0.00	7.88
27	**Manipur**	5.80	-2.50	1.25	0.50	0.00	1.50	0.00	6.55
28	**Bihar**	0.30	0.00	0.25	1.73	2.00	1.25	0.00	5.53
29	**Jharkhand**	0.00	3.00	0.00	0.00	0.00	0.00	0.00	3.00

5. Executive Summaries Individual States

ANDHRA PRADESH

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

An overall score of 55.81 has been assigned to the power sector in Andhra Pradesh. The distribution of marks against the various parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**55.74**	**75%**	**41.81**
A	*State Govt related parameters*	*18.00*	*(8.00)*	*4.70*		
B	*Regulatory Process*	*9.00*	*(5.00)*	*7.75*		
C	*Business Risk Analysis*	*30.00*	*(7.00)*	*17.77*		
D	*Financial Risk Analysis*	*20.00*	*(1.00)*	*14.25*		
E	*Others*	*7.00*	*(2.00)*	*5.07*		
F	*Progress in attaining commercial viability*	*16.00*	*(2.00)*	*6.20*		
	Part-II	**100.00**	**0.00**	**56.00**	**25%**	**14.00**
A	*Sustainability of state power sector revenue model*	*50.00*	*0.00*	*32.00*		
B	*Creation of competitive environment*	*50.00*	*0.00*	*24.00*		
	FINAL SCORE	**100.00**	**(18.75)**			**55.81**

Strengths

- Comfortable financial position – Cash expenses in excess of 96 per cent are covered by revenue from sale of power net of state subsidies in FYO5.
- Strong regulatory processes in place with timely filing of revenue requirement and issue of orders; APERC operational since 1999.
- Sound operating performance of thermal plants (PLF 88 per cent in FY05, high availability 92 per cent in FY05)
- Low manpower levels in transmission and distribution function with only 2.48 employees per 1000 consumers; one of the lowest in the country.
- Significant addition to generating capacity in state. More private sector projects in pipeline.
- Strong support from state government through balance sheet restructuring and transition period cash support to fund revenue deficits.
- Pension liabilities have been quantified and master trust has been created

Weaknesses

- Aggregate Technical and Commercial losses at over 25 per cent, however, the levels are much lower than other states in India of comparable size and consumer pattern.
- Limited support for servicing of past pension liabilities of the utility
- High cross-subsidy surcharge hindering the facilitation of 'Open Access' policy in the state.
- Low metered sales at 52 per cent of the total units input in the system
- Gearing on the higher side (3.85 times in FY05)
- High levels of receivables at over 96 days of sales in FY05, however, there have been a marginal reduction since FY03.
- Low level of household electrification at 78%.
- Low level of distribution transformer metering (<9%) resulting in Energy Audit system not fully effective.
- High distribution transformer failure rates in excess of 11 per cent.

The State Government:

Key positives

Andhra Pradesh has been one of the first states in India to undertake power sector reforms in order to bring about commercial viability in the sector. Apart from the enactment of Andhra Pradesh Electricity Reform Act, 1998 and the subsequent unbundling of Andhra Pradesh State Electricity Board on functional lines, Government of Andhra Pradesh (GoAP) has supported the sector during the transition period through balance sheet restructuring and annual cash subsidies to fund revenue deficits. The state government has been actively engaged in the implementation of the requirements as per the Electricity Act 2003, thereby providing an enabling environment for the utilities to attain greater financial viability. To this effect, the necessary actions such as setting up of Special Courts and Police stations for trial of theft related cases, setting up fund for SERC and constitution of district level committees have already been taken up. Further, GoAP has also been supportive in bringing in new generation capacity, especially by the private sector.

Areas of Improvement

GoAP needs to provide support for the servicing of past pension liabilities (presently on APGenco's books) as a measure of support to the sector. The number of households electrified also needs substantial improvement over the short to medium term, as it is low at 78%.

Regulatory Process:

Key Positives

Andhra Pradesh has a well-developed regulatory system with the Andhra Pradesh Electricity Regulatory Commission (APERC) operational since 1999. APERC has already come out with six tariff orders since the issue of first tariff order in May 2000. There is timely filing of Annual Revenue Requirement (ARR) by all utilities and the issue of tariff orders. There is a high level of compliance of directives issued by the regulator including advance payment of subsidies by GoAP. APERC has been adopting a conscious approach towards reducing cross subsidy across consumer categories by adopting a Cost-of-Supply approach in tariff design. Multi-year tariff policy has already been issued and all the utilities have filed their ARR for 2006-07 following this approach. Further, APERC has been at the forefront in issuing requisite regulations mandated by the Electricity Act 2003 such as Performance Standards of licensees, Forum for Redressal of Consumer Grievances and Ombudsman, Open Access and State Grid Code.

Areas of Improvement

The Time-of-day tariff needs to be introduced in the state of Andhra Pradesh as has been implemented in other states. In addition, increase in fixed charge in retail tariff to mirror the actual cost structure of the utility – fixed and variable components - needs to be considered.

Operational Parameters (Generation, Transmission and Distribution):

Key Positives

The performance of the generating plants in the state sector has been good, demonstrated by high levels of plant availability (> 92 per cent), plant load factor (PLF) in excess of 88 per cent and low levels of auxiliary consumption. The transmission and distribution utilities in the state have one of the lowest manpower levels out of all power utilities in India at 2.48 employees per 1000 consumer. The Aggregate Technical and Commercial (AT&C) losses in the state, though at 25 per cent, are still lower than other states in India with comparable size and consumer pattern. The distribution utilities have been taking numerous steps to reduce AT&C losses, which have reduced from 35 per cent in 2002-03 to the current levels. Almost 60 per cent of meters installed in the state are high quality electronic meters. Further, the distribution utilities have taken several pro-active actions to address the grievances of the consumers in a timely manner and compliance of the performance standards. All the utilities have been regular in preparation of Annual Accounts and timely preparation of various MIS reports for actions to be taken by the senior management. Several IT applications such as online billing viewing and payments have been adopted across the state.

Areas of improvement

Energy Audit is an area where greater thrust has to be put in by all the distribution utilities in the state. With only 9 per cent of the distribution transformers in the state metered and most of the agricultural consumers yet to be metered, the Energy Audit system is not fully effective in identifying the exact consumers engaging in theft of electricity and lot of sale of power is still considered on estimated basis. As a result, the proportion of metered sales to the overall units available for sale in the state continues to remain at a low level of 52 per cent. Further, there is an excessive load on the existing infrastructure as reflected in the high levels of distribution transformer failure rates in excess of 11 per cent, though an improvement compared to 2002-03 (19.5%), has to improve significantly.

Financial Risk Analysis:

Key Positives

Cash Cost coverage for the overall state sector net of subsidy from the state government is comfortable at over 96 per cent in FY05 which has improved significantly from 71 per cent in FY02. Similarly, the adjusted book losses have seen a significant reduction since FY02 levels. Debt repayment record during FY05 of all the entities has been good. Further, the level of creditors for power purchase and fuel is at a low 42 days of power and fuel purchase during FY05, which have declined significantly since the level of 113 days in FY02, indicating a marked improvement in payment track record of the utilities.

Areas of improvement

The gearing of the consolidated entity is on the higher side at 3.85 times. This is also due to the long-term bonds issued by the generation entity for meeting pension payments. The debtors, though showing a declining trend are still at about 3 months of sales for FY05.

Sustainability of state power sector revenue model

The extent of dependence of state power utilities in Andhra Pradesh on state subsidy support has been declining largely due to a continuous uptrend in the revenues. In 2001-02, only 75% of the consolidated expenditure other than non-cash items like depreciation and extra-ordinary expenses was recovered through revenues other than subsidies. However, this recovery ratio has improved significantly and remained above 100% since 2002-03 indicating complete self-reliance for cash expenditure. In the same period, dependence on subsidies has declined from 28% to 11 % of the total revenues. In gross terms, too, there has been a significant decline in state subsidies. Supported by a high collection efficiency, the state power utilities in A.P. are in a comfortable position to

recover their entire cash expenses through self-generation, though depreciation primarily continues to be funded through state subsidies.

The finances of Government of Andhra Pradesh are marked by high self-dependence to fund total expenditure (>60%) with a strong state's own tax revenue base. Grants from the centre contribute only a small and declining share in expenditure funding. The revenue receipts have been growing at a CAGR of 9.5% over the 2001-02 to 2004-05 period indicating a consistent uptrend in the financial position. Though in gross numbers, the revenue deficit has remained stable, growing revenue receipts have resulted in a continuous decline in the revenue deficit to revenue receipts ratio. Though the ratios have been declining, power sector subsidies still accounted for roughly 7% of the total revenue receipts, 6% of revenue expenditure and 10% of own revenues in 2004-05. Power sector subsidies continue to contribute significantly to the revenue deficit in the state e.g. State revenue deficit in 2004-05 could have been lower by 77% in the absence of such subsidies.

Overall, though the quantum of subsidies is high in absolute levels, the large size of the state budget and the strong fundamentals help the state sustain power sector subsidies at the current levels. Any increase in subsidies from current levels could place a strain on the financials of the state.

Creation of competitive environment

Andhra Pradesh entered its reform phase in 1999 with the unbundling of APSEB into two entities on viz. APGENCO handling the generation function while APTRANSCO handling the transmission and distribution of power in the state. As per second transfer scheme, APTRANSCO was unbundled into five entities on 1.4.2000 whereby APTRANSCO retained the transmission function while the distribution activity in the state was transferred to four distribution companies – AP East PDCL, AP Central PDCL, AP South PDCL and AP North PDCL. Further, as per the mandate of the EA 2003, the procurement and bulk supply of power and trading of power and PPAs were transferred to the four distribution companies on 9.6.2005 as per the third transfer scheme notified by GoAP.

The state regulator, APERC, has already notified an 'Open Access Policy' and the first phase is already being implemented. Charges under open access policy have also been notified. At the current levels of cross-subsidy surcharge, wheeling and other charges applicable to the open access consumer in A.P., it works out much more expensive than the grid tariff, even after assuming that HT consumers are able to procure power from third sources at rates as low as Rs. 2.25/kwh. Such high level of charges hinders the actual implementation of the 'Open Access Policy' in the state, which could have ushered in a competitive market scenario. However, cconsidering the level of current charges, it is favourable for high power consuming consumers to go for captive generation provided they are able to generate or procure power at reasonable levels (e.g.

below Rs. 3/kwh). The position would become even more favourable in case the captive plant is located at the site of the consumer and no wheeling charges are being paid.

On an overall basis, though the policy framework for creating a competitive environment in power sector in the state exists, a revisit of the charges relating to open access in the state is required before a large-scale implementation of the policy can be achieved.

GUJARAT

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**45.95**	**75%**	**34.46**
A	State Government Related Parameters	*18.00*	*(8.00)*	*5.31*		
B	SERC Related Parameters	*9.00*	*(5.00)*	*3.00*		
C	Business Risk Analysis	*30.00*	*(7.00)*	*14.34*		
D	Financial Risk Analysis	*20.00*	*(1.00)*	*11.0*		
E	Others	*7.00*	*(2.00)*	*5.50*		
F	Progress in attaining commercial viability	*16.00*	*(2.00)*	*6.80*		
	Part-II	**100.00**	**0.00**	**80**	**25%**	**20**
A	Sustainability of revenue model	*50.00*	*0.00*	*40.00*		
B	Creation of a competitive environment	*50.00*	*0.00*	*40.00*		
	FINAL SCORE	**100**	**(18.75)**			**54.46**

A score of 54.46 has been assigned to the power sector in Gujarat. This assessment is predominantly based on information available/ made available till May 2006. The scores assigned are as follows:

Strengths

- Significant reduction in losses from Rs 1932 Crore in 2003-04 to Rs 1035 Crore in 2004-05. Consequently, gap between ARR and ACS has reduced from 47.80 paisa/ kWh to 29.78 paisa/ kWh.
- Continued support from the Government of Gujarat (GoG) in terms of reforming and restructuring the sector.
- Formulation of the Financial Restructuring Plan (FRP) which has been approved by the GoG. The same involves substantial concessions from the GoG
- Substantial progress in terms of implementation of Electricity Act, 2003 as well as Distribution reforms

Weaknesses

- Despite decline, there is continued dependence on subsidy support from GoG,
- Delay in filing of ARR despite inadequate cost coverage from own revenues. Excluding subsidy, coverage of costs from own revenues remains below 75%.
- Negative networth and high debt levels
- Despite improvements, ratio of units billed on metered basis as a proportion of total energy input remain below 50%

The assigned score continues to reflect the strong support from Government of Gujarat (GoG) in terms of structural reforms, finalisation of FRP, progress in distribution reforms, above average performance of the generating stations, and good track record of debt servicing. The scoring continues to be constrained by AT&C loss level at about 26%, inadequate coverage of costs through revenues without subsidy, and a gap between ARR and ACS of close to 30 paisa, as a result of which it scores moderately against the parameter 'Progress in attaining commercial viability'.

The Gujarat Electricity Industry (Reorganisation and Regulation) Act 2003 has been passed and notified by GoG. As per the transfer scheme notified on 24th October 2003, the board has been restructured into seven entities. Subsequently, on December 31, 2004, the GoG vide its notification has notified the provisional opening balance sheets of the successor (unbundled) entities as on 1st April 2004. All the unbundled entities have also started functioning independently with effect from 1st April 2005. The FRP has recently been approved by the GoG, and includes as below:

- Take-over of CPSU bonds of Rs. 1628 Cr.

- Conversion of state government loan aggregating Rs. 623 into equity in Gujarat Urja Vikas Nigam Limited (GUVNL)
- Moratorium on interest payment liabilities on the outstanding GoG's loan of Rs. 842 Cr. for a period of six years (FY 2006- 2011). Deferred interest is payable after FY 2011.
- Capital grant by GoG for strengthening the power sector of Rs. 250 Cr. per annum over FY 2006-11, totaling of Rs. 1500 Cr.

GoG's progress in terms of implementation of the provisions of the Act is also satisfactory. This includes setting up of Special Courts, notifying designation of Assessing Officers and constitution of District Level Committees. The state sector utilities collected a total amount of Rs 94 Crores from Anti Theft raids during 2004-05. However, the score against State Government parameters has been constrained by dependence on subsidy from GoG despite the revenue deficit nature of state finances and limited addition in the overall generation capacity (State + IPP) in the state over the last three year period.

The state, however, scores poorly against the SERC parameters, with no ARR having been filed for 2004-05. Thus, there is no tariff order for 2005-06. The utilities, have, however, filed the ARR for 2006-07 in January 2006 and scores against this parameter should show an uptrend in the next year's exercise. On the positive side, GEB's compliance with directives contained in GERC's tariff order issued in June 2004 is satisfactory. The Commission has also taken several steps to implement the provisions of the Act from a regulatory perspective, including issuing and monitoring of Performance Standards of licensees, setting up of forums for redressal of consumer grievances and finalisation of Open Access guidelines. The State is set to implement intra-state ABT from February, 2006

With respect to generation parameters, there has been an improvement in operating performance during 2004-05 against the previous year as reflected through higher PLF, lower auxiliary consumption and also higher availability of power plant stations operated by GEB. With respect to T&D parameters, the positives include completion of feeder metering at 11 kV level, availability factor of over 98% at 11 kV level and above, initiation of detailed energy audit and decent manpower productivity parameters. Distribution transformer failure rates, which were very high at close to 20% till 2004-05 have shown a sharp improvement this year with the implementation of Jyoti Gram Yojana scheme, (which encompasses segregation of power supply to agriculture and rural consumers through separate feeders). On the negative side, proportion of units billed on metered basis remains below 50%, in addition AT&C losses remain moderately high at about 26%. Also, with only very limited Distribution Transformers, which are metered, score against Energy Audit has also been capped.

The financial position of the erstwhile GEB has shown a substantial improvement, driven by further reduction in power purchase cost (from Rs 2.29 /kWh to Rs 2.06 /

kWh), efficiency improvements at its own generating unit, marginal reduction in AT&C losses and significantly improved collections. As a result, Adjusted Book Losses have come down from 3690 Crore in 2003-04 to Rs 2545 Crore in 2004-05. Simultaneously the gap between ARR and ACS has also reduced from around 48 paisa to around 30 paisa during the period. This coupled with good track record of debt servicing as well as funding of pension and gratuity liabilities has enabled the state to score moderately against the financial parameters as well as the parameter on "Progress towards Commercial Viability"

GEB finalizes its provisional accounts by the beginning of May for the financial year ended March. Data is by and large consistent. Steps have also been taken to implement GIS mapping as well as SCADA in some select cities like Baroda.

Sustainability of the revenue model of the power sector:

The key drivers for the improved performance of GEB has been optimisation of power purchase costs, overall improvement in operational efficiency, savings in interest costs because of debt restructuring and significant improvement in cash collections. The average cost of service has come down from Rs 4.15 per unit in 2003-04 to Rs 3.53 / unit in the first three-quarters of 2005-06 while the average realisations has gone up Rs 2.84 / unit to Rs 2.98 / unit, without any tariff increase. Similarly collections has improved significantly over the last three years, from Rs 8957 Crore in 2002-03 to an estimated 11506 Crore in 2005-06, again with out any tariff increase. As a result, there has been a marked improvement in financial position, losses have reduced from 1932 Crore in 2003-04 to Rs 1035 Crore in 2004-05, as per the unaudited 9 month results for 2005-06, GEB has made a net profit of Rs 49 Crore and cash profit of Rs 714 Crore.

Going forward, we expect these improvements to be sustained, as the operationalisation of the companies formed as a result of unbundling of the sector and the Financial Restructuring Plan recently approved by the Government lay down very clear performance targets that encourage efficiency improvements. The companies, as pat of the "e-Urja" project are also implementing end-to-end IT solutions and Business Process reengineering.

While the GEB continues to have substantial dependence on subsidy support from the State Government, the same has been showing a declining trend, both in absolute terms as also as percentage of total revenues.

Amount in Rs. Cr.	FY05	FY 04	FY 03
Subsidies/grants booked during the year (by GEB)	1688	1805	1963
Total Revenue (GEB)	10592	10104	10211
% of Subsidy to Total Revenue	15.93%	17.86%	19.22%

Subsidies & grants received during the year*	1852	1872	1497
Revenue Receipts of the GoG[3]	20,206 (RE)	18,248	17,875
Revenue Deficit of GoG	(3,869) (RE)	(3,707)	(3,564)
Power sector subsidy as % of revenue receipts	8.35%	9.89%	10.98%
Power sector subsidy as % of revenue deficit	43.63%	48.69%	55.08%

*only cash subsidy and adjustment to the extent of ED/ST are considered

While subsidy to the power sector accounts for a sizeable share of the revenue receipts of the State Government and a huge share of revenue deficits, a positive aspect is the declining trend in both these indicators in percentage terms. Also it is to be noted that state finances has shown a very significant improvement in the recent past as reflected in decline in deficit from Rs. 3707 Cr. in 2003-04 to 335 Crore as per Revised Estimates of 2005-06 The state has budgeted a zero deficit position in FY2007. The decline in revenue deficit to 335 Crore indicate the state's ability to not only fund the subsidy without impairing its own fiscal position but in fact improve on the same.

Creation of a competitive market-place

One of the fundamental preconditions for creating a competitive market place, unbundling the sector on functional lines and separation of trading and transmission functions have been completed and the DISCOMs have started independent functioning from 1st April 2005. Each of the DISCOMs have their own CM&D and the employee transfers have also been completed. As a further step towards encouraging competition, a fair amount of progress has been made towards implementing intra-state ABT. While the GERC has come out with an order dated 14th February 2006 laying down the rules and guidelines, the plans regarding interface locations and nos. of ABT meters required has also been finalised in consultation with PGCIL. The orders for purchase of 870 nos. meters has been placed and installation is expected to start from the first week of May 2006. In the second phase, tariff will be finalised, market structure will be formed and the existing PPAs made ABT-compliant. The Captive Power Policy of the Gujarat Government does not levy any discriminatory duty on Captive generation , wheeling charges are 13.5 paisa and 21 paisa respectively for power delivered at EHV and HV respectively.

The latest tariff order issued by GERC has specified the following charges for open-access consumers availing open-access on a long term basis :

Transmission charges	: Rs. 2832 / MW / day
Energy loss	: 4.27%
Wheeling charges	: Rs 2459 / MW / Day
Losses in kind	: 10.01% at 11 kV level
Cross Subsidy surcharge	: Rs 1.35 / unit

[3] Source : RBI publication on State Finances: A Study of Budgets , 2004-05 and 2005-06

Thus , for a consumer with a load factor of 60% , the total charges payable will work out to around Rs 1.75 / unit , and given the high grid tariffs in Gujarat, open access may not be hindered provided the consumer is able to source power at competitive tariffs .

DELHI

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

An overall score of 50.87 has been assigned to the power sector in Delhi. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**49.49**	**75%**	**37.12**
A	*State Govt related parameters*	*18.00*	*(8.00)*	*10.49*		
B	*Regulatory Process*	*9.00*	*(5.00)*	*4.50*		
C	*Business Risk Analysis*	*30.00*	*(7.00)*	*14.80*		
D	*Financial Risk Analysis*	*20.00*	*(1.00)*	*8.50*		
E	*Others*	*7.00*	*(2.00)*	*5.00*		
F	*Progress in attaining commercial viability*	*16.00*	*(2.00)*	*6.20*		
	Part-II	**100.00**	**0.00**	**55.00**	**25%**	**13.75**
A	*Sustainability of state power sector revenue model*	*50.00*	*0.00*	*38.00*		
B	*Creation of competitive environment*	*50.00*	*0.00*	*17.00*		
	FINAL SCORE	**100.00**	**(18.75)**			**50.87**

Strengths

- Power sector in the state restructured and unbundled; distribution utilities privatized
- All distribution companies recovering all operational expenditure without any direct state government subsidies.
- Strong financial position of the state government with consistent revenue surpluses.
- High level of IT adoption by the distribution companies (Discoms) in consumer services such as metering, billing, complaint handling, etc.
- Manpower at distribution level reduced with introduction of Voluntary Separation Scheme

Weaknesses

- High level of systemic losses with Transco having accumulated losses of Rs. 37.78 billion, leading to a negative networth
- High aggregate technical and commercial losses (AT&C losses) of 43 per cent for the year 2004-05

- Generating companies operating at low levels of plant load factor, being 65 per cent in 2004-05
- DERC is yet to issue 'Open Access Policy' for the state.

The State Government

Key positives

The Government of National Capital Territory (GoNCT) is committed to providing cash support of over Rs. 34.50 billion to Delhi Transco during the transition period upto 2006-07, at the end of which the sector is expected to breakeven. No subsidies are paid to the Discoms, which are being run on a commercial basis with reference to the levels of efficiency gains committed by them at the time of privatisation in July 2002. The level of household electrification is high at over 81 per cent. During 2004-05, efforts have been made for compliance with targets of Electricity Act 2003, like designation of Assessing officers and constitution of district level committees.

Areas of Improvement

Though GoNCT is providing strong transitional support to Transco in the form of loans, the arrangement is leading to a skewed capital structure and heavy losses in revenue. Clarity on the terms of the transitional loans is required. Further, efforts need to be taken for implementation of certain targets as per Electricity Act 2003 such as setting up fund for Regulatory Commission, separating trading and transmission functions.

Regulatory process

Key positives

The Policy directions require the tariffs to be determined such that they are uniform for all consumer categories in Discoms, thus interlinking the tariffs of the licensees. Depending on the annual revenue requirements (ARRs) for different Discoms, the bulk supply tariff is adjusted in a manner that the Discoms are commercially viable and required only to meet the efficiency gains they are committed to.

Delhi Electricity Regulatory Commission (DERC) has issued directives to the utilities to improve their operational efficiency, costs, and quality of service. DERC has also issued various regulations as per the Electricity Act 2003 and the Delhi Electricity Reform Act such as Performance Standards - Metering & Billing and has established forum for redressal of consumer grievances and appointed an Ombudsman. DERC was one of the first Commissions to come out with a multi year tariff policy in 2001.

Areas of Improvement

Timeliness of the tariff orders as well as filing of the petitions by the Discoms needs to be improved. The Petitions were filed in December 2004 while the Order for 2005-06 was issued in July 2005. Time of Day Tariff needs to be introduced in the state. Moreover, increase in fixed charge in retail tariff needs to reflect the actual cost structure of the utility. Open access and State Grid Code guidelines need to be finalised for the state.

Operational Parameters (Generation, Transmission and Distribution)

Key positives

There has been a high level of feeder level metering in Delhi and the Discoms are strengthening the Energy audit systems. Already 100 per cent of the consumers are metered and consumer indexing is almost complete. The distribution transformer failure rate is also low. All Discoms have taken steps to improve the customer services and tackle the consumer grievances in a timely manner. Further, there have been attempts to rationalize the workforce at the distribution levels with the reduction in manpower levels following the introduction of Voluntary separation scheme. Efforts have been taken by the utilities for improving the timeliness and quality of MIS.

Areas of Improvement

The bulk of the generation plants is aged and has low plant load factor (PLF) levels (65 per cent during 2004-05) and high levels of manpower (over 2.31 employees per MW of capacity). The AT&C losses remain at a high level of 43 per cent and the level of metered billing is at a low level of 59 per cent of the units input. Low level of DTR metering needs to be improved on a priority basis in BSES Rajdhani Power Limited and BSES Yamuna Power Limited service areas.

Financial Risk Analysis

Key positives

Creditors for fuel and power are at a level of 21 days of the total power & fuel purchases. This figure is lower than most of the electricity boards in the country. The Revenue cost coverage has improved from 63 per cent in 2003-04 to 93 per cent in 2004-05. The pension liabilities of the employees are being taken care of by the GoNCT, which has funded the initial corpus of the DVB Employee Terminal Benefit Fund 2002 based on actuarial calculations.

The Average revenue realisation (ARR) as a percentage of Average cost of supply (ACS) has improved from 67 per cent in 2003-04 to 83 per cent in 2004-05. Consolidated cash losses have also decreased in the state.

Areas of Improvement

The power sector as a whole had a negative net-worth due to accumulated losses of Rs. 40.70 billion including Rs. 37.78 billion in the Transco's books as on March 31, 2005. The level of receivables has improved after unbundling, but has increased over the past two years.

Sustainability of state power sector revenue model

There is no explicit subsidy paid by the Government of National Capital Territory of Delhi (GoNCT) to the power utilities in Delhi to subsidise power tariffs to any specified class of consumers. However, as part of the transfer scheme for the Discoms and their subsequent privatization, it was agreed that the Transco would supply power to the Discoms at a subsidised bulk supply rates that would cover the Discoms' permissible expenses. To fund the revenue gap of the Transco, GoNCT has committed a loan of Rs. 34.52 billion over the period from 2002-03 to 2006-07. Currently, all the distribution and generation companies are generating adequate revenues to cover their entire cash as well as non-cash expenses and the Delhi Transco is covering its revenue deficits through GoNCT loans. However, accretion of these loans has resulted in a skewed capital structure and significant accumulated losses on the books of the Transco. The terms and conditions for servicing of these loans have not been decided yet. Now, as per the mandate of the electricity Act 2003, a transmission company cannot engage into trading activities for which Delhi Transco has taken an exemption till 2006-07. Beyond 2006-07, the transmission company would be able to charge only transmission charges and have no control on the bulk supply tariffs to be charged from Discoms. In such a scenario, the state government needs to re-allocate these liabilities in such a manner to avoid an adverse financial impact on the transmission company on an urgent basis.

The state finances of GoNCT are strong and are marked by consistent revenue surpluses, which have been growing at a rapid rate from around Rs. 12 billion in 2001-02 to almost Rs. 20 billion in 2004-05. The city-state is completely self-reliant for funding its revenue expenditure and the state's own tax revenue alone is sufficient to cover all of the revenue expenses. With almost negligible power sector subsidies, robust state finances and profit generating distribution and generation sector, Delhi has a strong sustainable revenue model for its power sector provided the state government is able to settle the issue of the liability of the transition loans extended to the Transco at the earliest.

Creation of competitive environment

Though, the power sector in Delhi has been unbundled on functional lines with a separate transmission company, two generation companies and three distribution companies, the crucial separation of trading function is still to be separated from the transmission company. Further, the Delhi Electricity Regulatory Commission (DERC), though in existence for over six years, is yet to formulate an open access policy that

would enable large customers in Delhi with an option to buy power from sources other than their respective distribution companies. On the whole, Delhi still has a long way before a truly competitive environment is established in the state.

KARNATAKA

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

An overall score of 46.92 has been assigned to the power sector in Karnataka. The distribution of marks against the various parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**40.56**	**75%**	**30.42**
A	*State Govt related parameters*	*18.00*	*(8.00)*	*7.03*		
B	*Regulatory Process*	*9.00*	*(5.00)*	*3.85*		
C	*Business Risk Analysis*	*30.00*	*(7.00)*	*13.70*		
D	*Financial Risk Analysis*	*20.00*	*(1.00)*	*9.63*		
E	*Others*	*7.00*	*(2.00)*	*3.55*		
F	*Progress in attaining commercial viability*	*16.00*	*(2.00)*	*2.80*		
	Part-II	**100.00**	**0.00**	**66.00**	**25%**	**16.50**
A	*Sustainability of state power sector revenue model*	*50.00*	*0.00*	*34.00*		
B	*Creation of competitive environment*	*50.00*	*0.00*	*32.00*		
	FINAL SCORE	**100.00**	**(18.75)**			**46.92**

Strengths

- Good cost coverage – Cash expenses in excess of 90 per cent are covered by revenue from sale of power net of state subsidies in FYO5.
- Strong support from state government through balance sheet restructuring and transition period cash support to fund revenue deficits.
- Well-developed regulatory system with Regulatory Commission operational since 1999.
- Low manpower levels with only 3.17 employees per 1000 consumers; one of the lowest in the country.
- High level of Household Electrification at over 97 per cent.
- Low cross-subsidy surcharge facilitating open access in the state.

Weaknesses

- High Aggregate Technical and Commercial losses at over 35 per cent.
- High levels of receivables at over 125 days of sales in FY05, which have risen from the levels in FY03.
- Low level of distribution transformer metering resulting in Energy Audit system not fully effective.
- Excessive burden on existing distribution infrastructure leading to high distribution transformer failure rates in excess of 15 per cent.
- Delay in filing of tariff petitions by the utilities.
- Multi-year policy framework for tariff setting not yet in place.
- Significant dependence of the utilities on state subsidies.

The State Government

Key Positives

Karnataka has been one of the first states in India to undertake power sector reforms in order to bring about commercial viability in the sector. Apart from the enactment of Karnataka Electricity Reform Act, 1999 and the subsequent unbundling of Karnataka Electricity Board on functional lines, Government of Karnataka (GoK) has supported the sector during the transition period through balance sheet restructuring and annual cash subsidies to fund revenue deficits. The state government has been actively engaged in the implementation of the requirements as per the Electricity Act 2003, thereby providing an enabling environment for the utilities to attain greater financial viability. High level of household electrification at over 97% and almost 100 per cent village electrification is a reflection of the state government's attempt to bring about universal access to electricity for all the people of Karnataka. To cater to a growing demand, GoK has also been supportive in bringing in new generation capacity, especially by the private sector.

Areas of Improvement

In spite of being one of the pioneers of power sector reforms in India, Karnataka's pace of reforms has slowed down. The distribution utilities in the state continue with high levels of AT&C losses and the proposed privatisation of the sector is yet to take off. Further, the state government continues to heavily subsidise agricultural consumption in the state. Though, currently the state finances are in a favourable position, continuing subsidies at over Rs. 17,000 Million is significant drag on the state exchequer.

Regulatory Process

Key Positives

Karnataka has a well-developed regulatory system with the Karnataka Electricity Regulatory Commission (KERC) operational since 1999. KERC has already come out with five tariff orders and over the years set in place regulations necessary to effectively manage the power system in the state. KERC has been at the forefront in issuing

requisite regulations mandated by the Electricity Act such as Performance Standards of licensees, Forum for Redressal of Consumer Grievances and Ombudsman, Open Access and State Grid Code. Further, KERC has been making a continuous attempt to reduce cross subsidy in the sector apart from rationalisation of tariff slabs.

Areas of Improvement

A multi-year framework for determining tariff is yet to be finalised. Time of day metering to effectively manage the load profiles also need to be taken up. Further, there have been considerable delays in both filing of Annual Revenue Requirement by the utilities and the issue of tariff orders compared to the mandated timelines as per the Electricity Act 2003.

Operational Parameters (Generation, Transmission and Distribution)

Key Positives

The performance of the generating plants in the state sector has been satisfactory, demonstrated by high levels of plant availability, plant load factor (PLF) and low levels of auxiliary consumption. The transmission and distribution utilities in the state have a low level of manpower at 3.17 employees per 1000 consumers compared to other states in India, which are burdened with excessive manpower. Further, the distribution utilities have taken several pro-active actions to address the grievances of the consumers in a timely manner. Also, all the utilities have been regular in preparation of Annual Accounts and timely preparation of various MIS reports for actions to be taken by the senior management.

Areas of Improvement

The distribution utilities in the Karnataka still have a lot of ground to cover when it comes to reduction of losses and improvement of physical infrastructure. The level of Aggregate Technical & Commercial (AT&C) losses continues to be at high levels of over 35 per cent for the state as a whole. With only 24 per cent of the distribution transformers in the state metered and most of the agricultural consumers yet to be metered, the Energy Audit system is not fully effective in identifying the exact consumers engaging in theft of electricity. As a result, the proportion of metered sales to the overall units available for sale in the state continues to remain at low levels of below 50 per cent. Further, there is an excessive load on the existing infrastructure as reflected in the high levels of distribution transformer failure rates in excess of 15 per cent, which have actually risen over the previous year. Also, implementation of IT applications such as consumer indexing through GIS, distribution management through SCADA and computerised meter reading are yet to be taken up by the distribution utilities in a big way.

Financial Risk Analysis:

Key Positives

Cash Cost coverage for the overall state sector net of subsidy from the state government is comfortable at over 90 per cent in FY05. Gearing for the sector is also relatively lower at 2.5 times. Debt repayment record during FY05 of entities other than Visvesvaraya Vidyuth Nigama Ltd. has been good.

Areas of Improvement

Debtor management and collection performance should be the area of thrust for the Karnataka power utilities as the level of receivables are high at over 125 days of sale in FY05. There had been a significant reduction in receivables in FY03 when the distribution companies started with a fresh balance sheet after writing off unrecoverable debtors. However, there has been a continuous rise in level of receivables since then. This puts a greater dependence by the utilities on the state government for providing subsidies resulting in higher levels of payables. Further, the pension and gratuity liabilities in the state are yet to be ascertained through an actuarial valuation and is currently being done on 'pay as you go' basis.

Sustainability of state power sector revenue model

The power distribution sector in Karnataka is divided in five distribution companies out of which Chamundeshwari Electricity Supply Company (CESCOM) was recently carved out of the Mangalore ESCOM. There are significant variations in the performance, both financial and operational, between the northern distribution companies (Hubli ESCOM and Gulbarga ESCOM) and the southern distribution companies (Bangalore ESCOM and Mangalore ESCOM). BESCOM and MESCOM are in strong financial position with very low dependence on state subsidies. Both the distribution companies are recovering between 90% to 98% of their expenditure other than non-cash items like depreciation and extra-ordinary expenses through revenues other than subsidies. Further, the collection efficiency including subsidy receivables has remained in excess of 90%. On the other hand, HESCOM and GESCOM are highly dependent on state subsidies to run their operations with subsidies contributing roughly half of the total revenues in HESCOM and over 40% in GESCOM. The quantum of subsidies have been rising year on year due to continued poor financial performance as less than 60% of the cash expenditure is being recovered through revenue other than subsidies. The financial position is further worsened by low collection efficiency in both the distribution companies.

Currently, Govt. of Karnataka has a policy of providing subsidies to agricultural consumers in order to reduce their tariffs significantly from the levels mandated by KERC. As KERC progressively follows the mandate of the Electricity Act 2003 and the National Tariff Policy, the tariff for agricultural consumers is expected to rise. In this scenario, in case Govt. of Karnataka continues with its current policy of subsidised

power to agriculture, quantum of subsidies would further increase, thereby increasing an already high dependence on state government for subsidies.

However, the high quantum of power sector subsidies is not a major cause of concern for the state. The finances of Government of Karnataka (GoK) are marked by very high self-reliance to fund total revenue expenditure (>78% in 2004-05) with a strong state's own tax revenue base. This ratio, which is one of the highest for any state in India, is an indication of a very robust economy. GoK has been able to control the revenue expenditures; the direct result being the consistently falling revenue deficits, which actually turned into a revenue surplus during 2004-05. The positive trend on this account is expected to continue. Also, the state has a low dependence on Grants from the centre, which contributes only a small share in expenditure funding.

Overall, though the quantum of subsidies is high in absolute levels, the large size of the state budget and the strong fundamentals help the state sustain power sector subsidies at the current levels.

Creation of competitive environment

Karnataka's state power sector comprises a transmission company, two-generation companies and five distribution companies. The state was one of the first ones to unbundle its power sector and the initial unbundling process started in 1999. Further, as per the mandate of the Electricity Act 2003, the procurement and bulk supply of power and trading of power and PPAs were transferred to the distribution companies on June 10, 2005 as per the Govt. of Karnataka Order dated May 10, 2005. In order to usher in competition and comply with the requirements of the Electricity Act 2003, KERC has already notified the 'Open Access Policy' for the state whereby consumers having a contracted demand above 5MW and connected at 33Kv level are able to choose their power supplier. At the current levels of cross-subsidy surcharge, wheeling and other charges applicable to the open access consumer in Karnataka, the economics is in favour of the open access consumer provided they are able to source power at low rates (such as below Rs. 3/kwh). However, the current low cross-subsidy surcharge at Rs. 1.15/kwh is based on average cost of supply, which may undergo a change in case KERC sets such charges based on voltage level cost of supply.

WEST BENGAL

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of 46.24 has been assigned to the power sector in West Bengal based on the data available till April 2006 . The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weight age	Final Score
	Part-I	**100.00**	**(25.00)**	**42.99**	**75%**	**32.24**
A	State Government Related Parameters	*18.00*	*(8.00)*	*3.47*		
B	SERC Related Parameters	*9.00*	*(5.00)*	*7.00*		
C	Business Risk Analysis	*30.00*	*(7.00)*	*9.96*		
D	Financial Risk Analysis	*20.00*	*(1.00)*	*6.50*		
E	Others	*7.00*	*(2.00)*	*3.86*		
F	Progress in attaining commercial viability	*16.00*	*(2.00)*	*12.20*		
	Part-II	**100.00**	**0.00**	**56**	**25%**	**14**
A	Sustainability of revenue model	*50.00*	*0.00*	*40*		
B	Creation of a competitive environment	*50.00*	*0.00*	*16*		
	FINAL SCORE	**100**	**(18.75)**			**46.24**

Strengths:

- Generation of cash profit in 2004-05 due to trading operations and reduction in T&D losses. The gap between ARR & ACS has reduced to 3 paisa for the year ended 2004-05.
- Substantial improvement in ATC loss reduction (25.3% in 2004-05 Vs 33.3% in 2003-04) due to comprehensive energy audit, strict implementation of Anti-Theft laws and vigorous collection efforts.
- Satisfactory progress against the targets laid out in Electricity Act, 2003 with respect to constitution of special courts, district level committees and designation of Assessing officers
- Satisfactory completions of interface metering, though DTR metering project has been delayed.
- Relatively high proportion of sales on metered basis compared to peers.
- Modest improvement in most financial parameters as reflected by improving trend in receivables and debt service track record.

Weaknesses:

- Limited progress in terms of restructuring and unbundling the Board and in drawing up a Financial Restructuring Plan. WBSEB still continues as an integrated entity for trading, transmission and distribution.
- Poor record in terms of 100% electrification of households.
- Poor capital structure of the State utilities as reflected in huge debt burden and negative networth.
- Low PLF of the thermal plants, although it is improving due to trading operations.
- High manpower levels, although productivity parameter has been showing an increasing trend.

The West Bengal Government has implemented most of the targets outlined in the Electricity Act, 2003, in terms of setting up Special Courts, designation of Assessing Officers and constitution of District Level Committees. The Anti Theft Legislation passed by the West Bengal Government has yielded positive results, although the amount collected from the raids continues to be low as compared to the absolute level of the AT&C losses. The scoring against 'State Government' parameters is however constrained by the delays in the restructuring of WBSEB, lack of any progress in terms of drawing up financial restructuring plan, poor progress in the electrification of households and limited addition to the generating capacity. The State Government has appointed PWC as its consultant for advising on restructuring the state power sector utilities. The consultant is currently on the job and is expected to submit its recommendations by February 2006, and drawing up FRP, restructuring and unbundling can commence only thereafter. In addition, the Government has recently announced a scheme for providing subsidy to agricultural consumers though in the absence of a formal GO, negative marks has not been assigned for the purpose of this exercise.

WBERC issued the tariff order for 2005-06 on March 30, 2005 in response to ARR which was submitted by the Board on December 14, 2005. The commission has played a proactive role in terms of enforcement of performance standards, monitoring of the redressal of consumer grievances, appointment of ombudsman, notification of open access guidelines, state grid code specifications and compliance of directives. The commission has also achieved modest success in terms of reduction in cross subsidy across the consuming segments, introduction of ToD tariff and insistence on merit order dispatch of power. The scoring against the regulatory processes has however been constrained by the delays in the notification of multi year tariff policy and lack of any appreciable increase in the fixed charges component of tariff.

There has been no change in scores assigned to the Generation parameters - the power stations belonging to the State Sector in West Bengal continue to operate at low PLFs, average Availability Factor and Auxiliary Consumption and higher manpower levels, even though Manpower productivity parameters are showing an positive trend. However, distribution reforms have been making satisfying progress – interface metering upto 11 kV has been completed with DTR metering for 4500 out of a total of 13500 DTRs in the final stages of completion. Completion of consumer metering has been delayed mainly in agricultural segment. As a result, metered energy sales has improved from the previous year levels and is satisfactory at 69% in 2004-05 when compared with peers. Energy audit upto 11 kV feeders has been completed in all the 41 divisions. However, because of limited DTR metering scoring against the energy audit has been capped at 0.50 even though the Board claims that the lack of DTR metering has not affected the audit process in any way. T&D losses have steadily declined from 38% in 2000-01 to 27% in 2004-05. ATC losses after showing an increase in 2003-04, have declined in 2004-05 due to better collection efficiency.

The scores assigned to the Financial Risk parameters reflect the average cost coverage levels, negative net worth, high level of creditors (due to the yet to be resolved valuation of thermal stations transferred to WBPDCL by WBSEB) and lack of any significant progress with regard to funding of pension & gratuity liabilities. Receivables have shown a sharp improvement at both WBSEB and DPL due to better collection efforts. Debt service track record of state power sector utilities has been satisfactory after restructuring of the debt effected in 2002.

As per the provisional results of 2004-05, WBSEB made a cash profit of Rs. 154 million against a cash loss Rs. 614 million in 2003-04. Apart from reduction in losses and higher income from trading / UI, the turnaround was also aided by a credit of Rs. 1887 million taken by WBSEB against WBDPCL on the grounds of faulty meter reading for the past period 1986-2000. Due to vigorous collection efforts of the Board, the gap between ACS and ARR declined from 39 paisa in 2003-04 to 3 paisa in 2004-05. Adjusted book losses

have also shown a significant improvement since 2001-02. As a result, the State has scored well against the parameter "Progress towards Commercial Viability".

MIS, maintenance of fixed assets register and remote meter reading of HT consumers are satisfactory. However, there has been delay in the finalisation of audited accounts of 2004-05 and limited progress with regard to computerised billing for LT consumers, consumer indexing and online billing facility.

Sustainability of the revenue model of the power sector:

WBSEB has limited dependence on the GoWB as reflected from the fact that it has not got any subsidy from the GoWB in the last four years. With effect from February 1, 2006, GoWB has decided to provide a subsidy of Rs. 200 million to WBSEB so that tariff for agri consumers could be brought down to Rs. 1.25/unit from Rs. 1.65/unit currently. Since the subsidy involved is very small (Revenue Receipts as per Budgetary estimates for 2005-06 is 42,668 Crore[4]) it is not expected to have an adverse impact on the fiscal health of the State Government.

WBSEB has turned in improved financial performance in the past few years due to reduction in
T&D losses, better collection performance, income arising from UI charges & trading as well as incentives as part of the securitisation scheme.

Rs. Million	**2004-05**	**2003-04**	**2002-03**
Operating Income	44021	42697	27103
OPBDIT	5375	3597	-2170
PAT	-2851	-3049	-9153

Of the above, income due to incentives (Rs. 740.2 million in 2004-05) would not be recurring from 2006-07 as per the securitisation scheme. Similarly the UI charges (Rs. 1498 million in 2004-05) also may not necessarily recur in the years to come. Thus ability to constantly improve upon its operational efficiency parameters will be critical in ensuring that the financial improvement seen in the past is sustained, especially in view of the decline in tariffs effected in the latest tariff order. However, the performance in the first six months of 2005-06 has been encouraging with loss levels declining to Rs. 1975.7 million as compared to Rs. 3887.0 million in the same period in 2004-05.

Rs. Million	**HY 2005-06**	**HY 2004-05**
Operating Income	23094	21085
OPBDIT	912	-33
PAT	-1976	-3887

WBSEB's financial performance has traditionally been good in the second half of the fiscal year due to higher offtake of power from commercial and industrial consumers. As

[4] Source: RBI publication "State Finances : A Study of Budgets of 2005-06"

a result, the Board is expected to show better profitability in 2005-06 as compared to 2004-05.

Creation of a competitive market-place

One of the fundamental preconditions for creating a competitive market place , unbundling the sector on functional lines and separation of trading and transmission functions has not yet been completed. However, the financial restructuring and unbundling on functional lines is expected to get completed in the next six months as the consultant appointed by the Board viz. PWC has already submitted its report on the restructuring of the State power sector utilities. Also, as the unbundling is yet to be completed, competitive bidding for the procurement of power is yet to materialize in the State.

WBERC has come out with regulations on allowing open access in transmission and distribution of power. As per the time table, open access for smaller customers with connected load upto 1 MW will be completed by 1.4.2011. Open access for high tension industrial customers has already been granted to three companies , however all the three companies happen to be Captive Power generators where the wheeling charges applicable is 56 paisa / kWh for using the WBSEB network. WBERC has not come out with open-access orders for any customer so far where Cross Subsidy Surcharge (CSS) is applicable, as per its guidelines however, CSS is to be computed using the avoided cost method. Overall, the principles and policies enunciated by WBERC so far do not seem to act as deterrent against competition, even though the scoring is constrained by the fact that actual figures for CSS and other applicable charges in case of Open-Access is not available.

WBERC has come out with a policy on captive power generation, as per which there is no discriminatory electricity duty (uniform duty of 40 paisa/unit) or excessive cross subsidisation surcharge impacting the viability of the captive generators. WBERC has urged the need for introducing intra State ABT through a notification, which is scheduled to be implemented in the State from June 2006.

GOA

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of 44.96 has been assigned to the power sector in Goa based on the data available till April 2006. The distribution of marks against the parameters is as follows:

 # As there is no State sector generation in Goa, maximum Scores related to generation are reallocated to Transmission and Distribution parameters in line with earlier rating exercise.

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**43.28**	**75%**	**32.46**
A	State Government Related Parameters	*18.00*	*(8.00)*	*3.70*		
B	SERC Related Parameters	*9.00*	*(5.00)*	*(3.00)*		
C	Business Risk Analysis	*30.00*	*(7.00)*	*13.08*		
D	Financial Risk Analysis	*20.00*	*(1.00)*	*13.00*		
E	Others	*7.00*	*(2.00)*	*0.50*		
F	Progress in attaining commercial viability	*16.00*	*(2.00)*	*16.0*		
	Part-II	**100.00**	**0.00**	**50.00**	**25%**	**12.5**
A	Sustainability of revenue model	*50.00*	*0.00*	*50.00*		
B	Creation of a competitive environment	*50.00*	*0.00*	*0.00*		
	FINAL SCORE	**100**	**(18.75)**			**44.96**

Strengths

- Consistently profitable operations, despite discontinuance of trading from May 2004
- Significant decline in the Aggregate Technical and Commercial Losses in FY 2004-05 to 16% from the 23.5% reported for the previous year.
- Very good track record in terms of rural electrification , electrification of households, consumer metering and billing on metered basis
- Financially viable and self sustaining power sector, making operational profits with an ARR in excess of ACS for the 3rd year in a row.

Weaknesses

- No progress in terms of corporatisation of the department, though a consultant was appointed for the purpose.
- Significant delay in kick starting the regulatory process in the State. The State Government was unable to find a suitable replacement for the member of the SERC who resigned. However, GoG has recently given its approval for joining the Joint ERC for UT's and small States.
- Slow progress in implementation of the Electricity Act 2003. In fact, the EA has not been notified yet in the State legislature.
- Limited progress in Energy Audit

The Government of Goa (GoG) has not taken any significant steps to achieve the targets laid down in the Electricity Act 2003 (Act). The GoG has not notified the Central Act in the local legislature and consequently the designation of Assessing Officers/District Session judges has not taken place. GoG's track record in terms of corporatisation and/or restructuring on functional lines also remain unsatisfactory. While GED has appointed a consultant for the purpose, there has been no action taken on the recommendations.

Another cause for concern is that the Regulatory Commission remains non-functional. While a single member SERC was constituted way back in 2002, the Commission has remained completely dysfunctional since the resignation of its member. The efforts of GoG to find a suitable replacement have not met with any success. Of late, there has been some progress with regard to the regulatory process, with the Government of Goa indicating its willingness to join the Joint Electricity Regulatory Commission of Small State's and UTs. The scores assigned to the power sector in Goa has been significantly affected due to negative marks assigned against this parameter.

Goa's track record in terms of electrification both at the household level as well as in terms of rural electrification has been impressive. Goa had achieved 93.6% household electrification in the census year of 2002 and has since brought considerable new households into its consumer base. On the rural electrification front, Goa is probably one of the few States to have achieved 100% rural electrification.

Goa has largely been a power surplus State thereby obviating the need for increase in Generation Capacity. In fact, Goa had been trading in excess power for the past few years, an activity that has been stopped since May 2004. A major positive for the Goa power sector is the quality of its transmission and distribution network. The availability of the State's transmission network has averaged at around 99% over the past few years and 100 % of feeders have been metered.. On the distribution front, 83.92% of energy input is being billed. Consumer metering levels stand at 97%, even though in case of DT metering, the figure is lower at 50%. Energy accounting is being carried out at 11kV levels and the Department has set internal targets for addressing consumer grievances. However, the state is yet to start comprehensive energy audit. The scores have also been affected because of non-availability of data against certain parameters like redressal of consumer grievances, proportion of electronic meters etc

The AT&C loss level of the state are quite low at 16.0%, down from the 23.5% reported last year. This is because of 100% Consumer metering and a collection efficiency in excess of 100% in FY 2004-05.

On the finance front, the Goa's Power Sector has been consistently generating net profits. The expense coverage ratio (Ratio of Revenues from Sale of Power to All operating costs incl. Interest and depreciation) stands at 133%. The debt servicing record of the department has been good so far with no defaults to any institution. However, the receivables trend of GED has shown a marginal deterioration with the number of receivable days increasing to over 120 as compared to 116 last year. GED's creditor days however stand at approximately 15 days which is a positive sign.

As far as progress towards commercial viability are concerned Goa has a Power Sector that is self-sustaining and making operational profits since FY 2002-03. The Average Revenue Realization (ARR) has been in excess of the Average Cost of Supply (ACS) for the third year in a row, despite discontinuance of trading operations.

Sustainability of the revenue model of the power sector:

The Goa Electricity Department has been making operating profit since FY 2002-03 when it commenced trading activities. However, despite the discontinuation of trading activities from May 2004, GED made a Profit before tax (PBT) of Rs 146.39 Crores in FY 2004-05. It is to be noted that the PBT has only marginally declined in FY 2004-05 as compared to the previous year despite the massive reduction in the "revenue from trading" component, which has declined by around Rs 80 Crores.

Goa Electricity Department – P&L[5]	**Units**	**FY 2002-03**	**FY 2003-04**	**FY 2004-05**
Revenue through Sale within State	Rs Cr.	427.38	465.27	505.32
Revenue through Trading of power	Rs Cr.	72.60	118.66	28.87

[5] This data has been taken from the Resources Annual Discussion Plan 2006-07 submitted by GED to the Planning Commission

Goa Electricity Department – P&L[5]	**Units**	**FY 2002-03**	**FY 2003-04**	**FY 2004-05**
Misc. Receipts incl. UI Incentive	Rs Cr.	59.91	25.78	5.83
Gross Revenue	Rs Cr.	**559.89**	**609.71**	**584.66**
Total Operating Expenses	Rs Cr.	**402.96**	**421.12**	**418.90**
PBDIT	Rs Cr.	**156.93**	**188.59**	**165.96**
Book Depreciation	Rs Cr.	8.81	10.56	12.04
PBIT	Rs Cr.	**148.12**	**178.03**	**153.72**
Interest charges	Rs Cr.	27.49	28.99	7.33
PBT	**Rs Cr.**	**120.63**	**149.04**	**146.39**

The operational parameters of GED , like AT&C losses, have also shown considerable improvement over the last few years, as sown below.

Particulars	**FY 02-03**	**FY 03-04**	**FY 04-05**
Energy Billed (%)	78.72%	77.74%	83.92%
T&D Loss (%)	**21.28%**	**22.26%**	**16.08%**
Collection Efficiency	96.42%	98.41%	100.09%
AT&C Loss (%)	**24.1%**	**23.5%**	**16.0%**
ARR/ACS (%)	**127%**	**132%**	**133%**

The Electricity Department of Goa is therefore self-sustaining, independent of Government of Goa support and has generated profits despite discontinuance of trading operations . Thus full scores are assigned.

HIMACHAL PRADESH

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of 43.08 has been assigned to the power sector in Himachal Pradesh based on the data available till May 2006 . The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weight age	Final Score
	Part-I	**100.00**	**(25.00)**	**41.45**	**75%**	**31.08**
A	State Government Related Parameters	*18.00*	*(8.00)*	*3.72*		
B	SERC Related Parameters	*9.00*	*(5.00)*	*4.5*		
C	Business Risk Analysis	*30.00*	*(7.00)*	*19.45*		
D	Financial Risk Analysis	*20.00*	*(1.00)*	*7.63*		
E	Others	*7.00*	*(2.00)*	*2.95*		
F	Progress in attaining commercial viability	*16.00*	*(2.00)*	*3.2*		
	Part-II	**100.00**	**0.00**	**48.00**	**25%**	**12.00**
A	Sustainability of revenue model	*50.00*	*0.00*	*32.00*		
B	Creation of a competitive environment	*50.00*	*0.00*	*16.00*		
	FINAL SCORE	**100**	**(18.75)**			**43.08**

Strengths

- Satisfactory progress in the area of distribution reforms, particularly metering and energy accounting.
- Achievement of almost 100% rural and consumer electrification.
- Significant steps taken by HPSEB, GoHP as well as HPERC to implement various provisions of Electricity Act 2003
- Strong regulatory process, with issuance of tariff order for 2005-06 within June 2005 and regular monitoring of performance standards and compliance with other directives
- Significant income from sales outside the State and UI charges

Weaknesses

- Limited improvement in financial position, in fact trend in indicators like AT&C, gap between ARR & ACS as well as Adjusted Book Losses is marginally negative. While the cost coverage of the Board has improved, cash flow based measures have declined.
- Limited progress in terms of restructuring and unbundling of HPSEB, with repeated extensions being sought from GoI w.r.t deadline for the same.
- Heavy overstaffing of HPSEB resulting in high employee expenses. Employee productivity parameters in terms of number of employees per MW generated and number of employees per 1000 customers continue to be high in comparison with normative levels.
- The receivables position has deteriorated (from 62 days last year to 70 days), the collections seen in 2003-04 , especially from Government Departments has not been sustained.
- HPSEB has payments due to the sources from which it buys power. Creditor days are as high as 115 days of the yearly power purchase cost for the period under consideration.

SUMMARY

The Government of Himachal Pradesh (GoHP) has taken significant steps to achieve the targets laid down in the Electricity Act 2003 (Act). GoHP has constituted all District and Session courts in the state as special courts for offences related to Sections 135 to 139 of the Act and all the District and Sessions judges have been designated as single judges of the said courts. The state has also designated assessing officers for HT and LT consumers as well as Electrical Inspector in the state. However, GoHP's track record in terms of restructuring HPSEB and unbundling the Board on functional lines remain unsatisfactory. It has obtained extension from the Government of India for restructuring of HPSEB and continuation of HPSEB as the state transmission utility and the licensee till June 9, 2006, the third extension in this matter. However, HPSEB has appointed consultants for its re-organization. It has drawn up a proposal for restructuring of the Board into three corporate entities – for generation, transmission and distribution. The residual HPSEB would be the holding company to manage the assets and liabilities of the power sector. For the time-being, in lieu of unbundling, HPSEB has also created independent profit centers with separate accounts for generation, O&M of existing

plants, transmission and distribution. Also, the scores have been affected because of the subsidy that GoHP provides to the domestic consumers.

GoHP had constituted the HP State Electricity Regulatory Commission (HPERC) in December 2000 and has provided financial autonomy to it by way of allowing it to operate the bank account in which the payments made by the licensee and other parties are deposited. HPERC has issued three tariff orders so far based on the ARR submitted by the HPSEB, last one being for FY 2005-06. HPERC also holds regular review meetings to monitor the compliance of the various directives issued by the Commission. In the tariff order for FY 2005-06, HPERC has made efforts to reduce cross subsidies and to optimize the power purchase cost by mandating the procurement of power on Merit Order Dispatch basis. HPERC has also taken several steps towards compliying with the provisions of the Act from a regulatory perspective, this includes issuing and monitoring the standards of performance for HPSEB, constitution of forum for redressal of consumer grievances, appointment of Ombudsman and issue of Conduct of Business Regulations as well as open access regulations. However, the multi-year tariff regime has not been implemented in the state due to lack of reliable data.

HPSEB has achieved a high level of electrification. More than 98% of the households in the state are electrified. The rural electrification in the state is also high with 94.48% of the rural households and 99.38% of the villages electrified by HPSEB. The total installed generation capacity of HPSEB is 330 MW. Several IPPs in the state have come up recently in the state like Baspa Hydel project. The state also has many central and private sector ongoing projects like Largi HEP (126 MW) and Uhl HEPstage - II (100MW).

The generation plants of HPSEB are fairly efficient with the auxiliary consumption of less than 0.5% of the generation. The availability of the plants has been very good throughout the year and is well above the normative availability. However, HPSEB continues to perform poorly on manpower parameters, with 13 employees/MW as compared to benchmark of 2 employees/MW.

A major positive for the HP power sector is the quality of its transmission and distribution network. The availability of the State's distribution network is high at 97.4% and more than 90% of its feeders are metered. Distribution transformer failure rates, number of outages and the duration of outages of HPSEB feeders, based on data furnished by HPSEB, is also very satisfactory. Almost all consumers are metered and billings on metered basis, as estimated by ICRA, is also high. However, HPSEB is lacking behind in installation of electronic meters with only 0.71% of the consumers provided with electronic meters.

The T&D loss level of the state is low at 16.38%, however the AT&C losses of HPSEB have shown a marginal increase to 22% for 2004-05 as compared to 20.7% for the year 2003-04. Nearly 84% of the energy input into the system is billed by HPSEB and has initiated in developing IT system for call centers and billing. HPSEB also has an efficient system for redressal of consumer grievances with ample number of complaint response

centers in place. Though the total number of employees is not showing increasing trend for the period under consideration, the total number of employees in T&D, as in case of generation , is very much on the higher side.

HPSEB's debt levels have increased substantially during 2004-05 and has lead to increase in the gearing ratio, which is a negative indicator. The revenue coverage ratio of HPSEB (Ratio of Revenues from Sale of Power to All operating costs incl. Interest and depreciation) has increased marginally but is still far below the desired level of 90% and above. The debt servicing record of HPSEB has been good so far with no defaults to any institution. However, the receivables trend of HPSEB has deteriorated with the number of receivable days increasing to over 70 as compared to 62 last year. HPSEB has payments due to the sources from which it buys power and the creditor days are as high as 115 days of the yearly power purchase cost for the period under consideration.

HPSEB has made the facility of online billing available to its customers. It is also taking other steps in the direction of MIS generation and computerization of the Board. It is already issuing computerized bills to 11% of the consumers.

The Average Revenue Realisation (ARR) of HPSEB has marginally worsened in 2004-05 compared to the previous year. The book loss of the Board has also increased in the FY05 as compared to FY04. Because of the increase in difference between ARR and ACS as well as book loss, HPSEB's scores against the Commercial Viability parameter are very low, especially in view of the negative markings involved.

Sustainability of the revenue model of the power sector:

The GoHP's subsidy support to HPSEB is limited to providing subsidy to domestic consumers, which aggregated to Rs 18.25 Crore in 2004-05. As a % of total revenue receipts, this accounts for less than 1% (Total Revenue Receipts was Rs 4617 Crore in 2004-05-RE). Further the revenue deficit of the state has declined from Rs 1482 Crores in 2002-03 to Rs 1005 Crore in 2004-05 (RE) and to 41 Crore in 2005-06 as per Budget Estimates[6] , thus ability to sustain the subsidy does not seem to be in doubt.

While HPSEB has not been able to effect an improvement in its financial position till 2004-05 , largely because of its inability to control employee expenses , the Board seems to have effected a significant improvement in its performance in 2005-06 (Provisional figures),as evident from the table below:

Figures in Rs Crore	2005-06 (till Feb.)	2004-05	2003-04	2002-03
Revenues from sale of power	1418.94	1248.6	1015.7	781.4
Expenditure of which	1179.86	1514.72	1280.81	1005.60
- Employee expense	383.94	440.19	415.06	382.85
PBT	247.31	(232.27)	(228.70)	(205.18)

[6] Source : State Finances : A Study of Budgets 2005-06 by RBI

The improvement , apart from control on employee expenses and decline in interest costs, seems to have been driven primarily by the steep increase in revenue earned by HPSEB from sale of power outside the state , which has increased from Rs. 174.57 Crore in FY 2003-04 to Rs. 502 .10 Crore in 2005-06 (till February, 2006) HPSEB is surplus in power for seven months i.e. April to October and it earns a substantial amount of revenue by way of sale of this surplus power outside the state. Further, the increase in energy availability in last two years from own hydel stations has helped HPSEB in meeting the growing peak demand from the consumers within the state during the winter months and generation of substantial energy surplus during the summer months. Therefore, HPSEB is trading energy (purchasing and selling) to meet the demand requirements of the state and optimizing the usage of Board's capacity (both allocated and owned capacities), thereby earning revenues. According to HPSEB, it is not undertaking any transactions purely on a trading merit to earn profits from a trading transaction. There is no 'trading business' inherent in the operations of the Board. With several hydel projects coming up in the state, the quantum available for trading can be expected to improve further. It is estimated that Himachal Pradesh has a hydel potential of about 20,300 MW of which only 6045.07 MW has been harnessed so far.

On the negative side, the Govt. of Himachal Pradesh has withdrawn the policy of providing HPSEB with the power at the rate equal to tariff rates of lowest slab of Domestic consumers from its own entitlement of free power from the central, joint and private sector projects set up in the state. The Govt. has started charging a royalty in the shape of free power with effect from April 1, 2005 from HPSEB's generation projects constructed after September 1990. Power would now be available to the Board only during winter months at the price equal to the average cost of power purchase of the board from various sources. However , this has clearly not affected the financials of HPSEB as evident from the 2005-06 figures.

Creation of a competitive market-place

One of the fundamental preconditions for creating a competitive market place , unbundling the sector on functional lines and separation of trading and transmission functions has not yet been completed. It has obtained extension from the Government of India for restructuring of HPSEB and continuation of HPSEB as the state transmission utility and the licensee till June 9, 2006. However, HPSEB has drawn up a proposal for restructuring of the Board into three corporate entities – for generation, transmission and distribution.

On the positive side, HPERC has issued regulation on terms and conditions on open access in June 2005. Open access to consumers with contract demand above 1 MVA but not exceeding 2 MVA has been allowed from April 1, 2007, and for consumers with connected load less than 1 MVA open access shall be introduced as and when regulations for the same are notified by HPERC. HPERC, is , however, yet to come out with specific wheeling or cross –subsidy surcharge for open access consumers, only the broad principles have been laid down and the extent to which open access is facilitated in the state therefore, will be evident only when a few orders are passed .

HPSEB has received two applications so far on long term open access – from M/s. Gujarat Ambuja Cement Ltd. & M/s. Himachal Cement Plant. These applications are under consideration by HPSEB. Further, HPSEB has already allowed an industrial consumer to wheel power for captive use from Solang Hydro Electric Power Project in District Kullu with an installed capacity of 1 MW to its industrial unit in Paonta Sahib.

The state does not levy any electricity duty on power generated from captive diesel power stations , the GoHP in fact provides some incentives in respect of captive power to investors in hydro projects up to 5 MW capacity, for instance Electricity generated from Micro Hydel Power Projects consumed by the party itself in any of its industries shall be exempted from payment of electricity duty for a period of five years from the date of commissioning of the plant. There has, however, been no progress in areas like introduction of intra-state ABT or procurement of power through competitive bidding.

MAHARASHTRA

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

An overall score of 35.41 has been assigned to the power sector in Maharashtra. The distribution of marks against the various parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**32.55**	**75%**	**24.41**
A	*State Govt. related parameters*	*18.00*	*(8.00)*	*2.78*		
B	*Regulatory Process*	*9.00*	*(5.00)*	*1.25*		
C	*Business Risk Analysis*	*30.00*	*(7.00)*	*8.47*		
D	*Financial Risk Analysis*	*20.00*	*(1.00)*	*10.00*		
E	*Others*	*7.00*	*(2.00)*	*2.25*		
F	*Progress in attaining commercial viability*	*16.00*	*(2.00)*	*7.80*		
	Part-II	**100.00**	**0.00**	**44.00**	**25%**	**11.00**
A	*Sustainability of state power sector revenue model*	*50.00*	*0.00*	*20.00*		
B	*Creation of competitive environment*	*50.00*	*0.00*	*24.00*		
	FINAL SCORE	**100.00**	**(18.75)**			**35.41**

Strengths

- Good operational performance of generation plants
- Low gearing of the utility
- Interface metering completed

Weaknesses

- Stagnant generation capacity in the state for last 5 years, leading to huge demand – supply gap and load shedding through out the state.
- Free/subsidised power undermines the commercial viability of the power sector.
- Accumulated financial losses of Rs. 19.08 billion as on March 31, 2005.
- Aggregate technical and commercial losses of 26.61 per cent for 2004-05.
- Low metered sales (52 per cent) of the total units input in the system.
- Delays in filing of tariff orders and average revenue realisation (ARR).

The State Government

Key positives

The Government of Maharashtra (GoM) has been providing subsidies to Maharashtra State Electricity Distribution Company Ltd. (MSEDCL) prior to the issue of bills to agriculture consumers, as per the Regulatory Commission's order. GoM has implemented most of the aspects required under the Electricity Act. These include setting up of special courts, nomination of assessing officers and the constitution of District Level Committees. GoM has also separated the transmission function and vested the trading function with Distribution Company.

Areas for improvement

The state has had no significant addition to its power generation capacity, by either MSEB, or the private sector in the last few years. This has led to mounting demand-supply gap in the state. Efforts are on to add generation capacity. Parali and Paras power stations with a capacity of 250 MW each are expected to commence generation in July 2006 and November 2006 respectively.

GoM provides subsidy to the agriculture and power loom sector, which adds to the state's financial burden. Subsidy burden has increased from Rs.11.01 billion in 2003-04 to Rs.15.74 billion in 2004-05. Household electrification in the State remains low at 80 per cent. Rural areas have not been notified as required under Rajiv Gandhi Gramin Vidyutikaran Yojana (RGGVY). Moreover, with collections from theft-prevention measures remaining low, anti-theft efforts need to be intensified.

Regulatory Process

Key positives

Merit order principles are being followed for purchase of power as per the recommendations of the Maharashtra Electricity Regulatory Commission (MERC). A consumer grievance forum has been set up, and an Ombudsman appointed, based on the Commission's orders.

MERC has introduced several regulations such as those regarding standards of performance, open access, and the Maharashtra Electricity Grid Code, to ensure compliance with the Electricity Act, 2003.

Areas for improvement

Tariff orders for 2004-05 and 2005-06 are yet to be issued by MERC, owing to the significant delays in filing of tariff applications by utilities. Utilities need to ensure that tariff applications are filed promptly so as to enable recovery of revised tariff for full year. In addition, a long-term tariff framework needs to be adopted, in line with the National Tariff Policy.

Operational Performance

Key positives
The performance of MSEB's thermal plants has been steady with plant load factors (PLF) at 71.9% in 2004-05. Auxiliary consumption has been within the limits prescribed for thermal plants.

Areas for improvement
MSEDCL needs to invest substantially in improving its distribution network. The rate of failure of distribution transformers (DTR) has increased to 19 per cent in 2004-05 from 15 per cent in 2003-04. Metering levels have to improve considerably at the consumer end from the current 52 per cent, for a better estimation of energy flows. Energy audits need to be completed for the entire system. The manpower employed in transmission & distribution (6.31 persons/1000 consumers) is on the high side.

Finances

Key positives
MSEB's financials are characterised by the low gearing (excluding loans from GoM). The revenue cost coverage was about 88.89 per cent for 2004-05. MSEB has reduced its adjusted book losses to Rs. 16.39 billion in 2004-05 from Rs. 31.67billion in 2001-02, mainly because of improved cash collection.

Areas for improvement
MSEB had accumulated losses of Rs 19.08 billion as on March 31, 2005. The receivables reduced to 215 days of sales in 2004-05 from 262 days in 2003-04, but collection efficiency needs to improve further. In addition, creditors for power and fuel (at 94 days) are higher than the prescribed benchmark of 60 days.

Sustainability of state power sector revenue model

In the 2004-05, the erstwhile MSEB recovered about 90% of its cash expenditure through revenue from sale of power, net of subsidy. However this ratio has been declining over the years from 97% in the 2001-02 to about 90% in 2004-05. The state utility's dependence on state subsidy has increased over the period of time. It increased from Rs.4.66 billion in 2001-02 to Rs.15.74 billion in 2004-205. The subsidies contributed around 11% of the total revenues in FY 2004-05, a major jump from 4% in FY 2001-02. The Government of Maharashtra was providing free power to agriculture sector, this policy has been changed from April 1st 2006. However subsidised sale to agriculture and power loom sector continues. MSEB and the successor entities are also adversely affected due to high power purchases to meet the demand-supply gap. These purchases, made to cater to the peak shortages are at significantly high rates as compared to the state's own cost of generation. Allowance of all the power purchase cost through or fuel adjustment surcharge by the regulator would be key issue as far as financial health of power sector in Maharashtra is concerned. Considering the Regulatory disposition, it is unlikely that full recovery of additional cost will be allowed. In such case, dependence on State

Government will further increase. Some respite has come from improved collection performance of MSEB/Mahadiscom, from 89% in the 2001-02 to 107% in the 2004-05.

The revenue receipts of Government of Maharashtra have increased at a CAGR of 13% over 2001-02 to 2004-05 period. However during the same period the revenue deficit figure has also increased from Rs. 81.9 billion to Rs.92 billion. The power sector subsidy from the state Government has increased from Rs.4.66 billion in FY 2001-02 to Rs.15.74 billion in 2004-205.The subsidy burden on the state finances was high at 17% of total revenue deficit in 2004-05. Clearly stemming of subsidy and then its reduction will be crucial from the point of view of containing overall deficit of State Government.

Creation of competitive environment

Maharashtra State Electricity Board (MSEB) has been unbundled w.e.f. April 1, 2005 into four entities; a holding company, a generation company, a transmission company and a distribution company. The trading activity has been separated out of the transmission function and is at present carried out directly by distribution company, Maharashtra State Distribution Co. Ltd. In order to introduce competition, HERC has notified the 'Open Access' regulations for the state on June 21, 2005, according to which customers having a contracted load of 2 MVA or above are already being allowed open access. However, the regulator is yet to frame policy regarding levying of various charges under the said policy, in whose absence no clarity regarding the viability of the open access policy can be ascertained. Further, Maharashtra has formulated captive power policy based on the guidelines issued by MERC. The captive power policy of the state is favourable as the consumer availing captive power is required to pay only Rs. 20/KVA per month as grid back-up charges.

KERALA

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

An overall score of 31.63 has been assigned to the power sector in Kerala. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**31.84**	**75%**	**23.88**
A	State Govt related parameters	18.00	(8.00)	(1.31)		
B	Regulatory Process	9.00	(5.00)	2.25		
C	Business Risk Analysis	30.00	(7.00)	14.68		
D	Financial Risk Analysis	20.00	(1.00)	6.50		
E	Others	7.00	(2.00)	2.92		
F	Progress in attaining commercial viability	16.00	(2.00)	6.80		
	Part-II	**100.00**	**0.00**	**31.00**	**25%**	**7.75**
A	Sustainability of state power sector revenue model	50.00	0.00	16.00		
B	Creation of competitive environment	50.00	0.00	15.00		
	FINAL SCORE	**100.00**	**(18.75)**			**31.63**

Strengths

- Strong regulatory processes in place with timely filing of revenue requirements and issue of orders
- High level of household electrification
- High metered sales at 74 per cent of the total units input in the system
- Low failure rate of distribution transformers

Weaknesses

- Significant subsidy receivable from GoK (Rs. 43.25 billion as on March 31, 2005) resulting in negative adjusted net worth
- Functional unbundling yet to take place
- High aggregate technical and commercial losses (32 per cent)
- No significant accretions to generating capacity
- Limited financial support from Government of Kerala (GoK)
- Pension liabilities yet to be quantified and currently being met as part of revenue expense
- Energy audits yet to be adopted on a regular basis
- Multi-year policy framework for tariff settings not yet adopted

The State Government

Key positives
Government of Kerala (GoK) initiatives have been instrumental in the state achieving 91 per cent household electrification.

Areas for improvement
Given the significant level of Kerala State Electricity Board's (KSEB) accumulated losses, GoK has provided limited transitional support to KSEB and has not formulated any Financial Restructuring Plan (FRP) for turning around the state's power sector. Kerala State Electricity Regulatory Commission (KSERC) in its orders had recommended to GoK to release Rs. 2.96 billion, (including Rs. 960 million as cash subsidy) for 2004-05, and Rs. 513.1 million for 2005-06, as subsidy support. However GoK has not taken any decision on this recommendation, and KSEB is yet to receive the subsidy from the government. This continues to be an area of concern and GoK needs to address the same promptly.

Accretion to the State's power generation capacity has been slow in recent times. The cases of delay in /non-compliance with the implementation of targets set by the Electricity Act, 2003, constitute another area of concern for the power sector. The Act stipulates that a regulatory fund be set up for SERC, that the functioning of district level committees be monitored, that special courts be set up to deal with issues of theft, and that standards of performance be enforced for licensees. These areas are yet to be addressed by GoK.

Regulatory process

Key positives
KSERC, which was set up in November 2002, has issued three timely tariff orders thus far. These orders, issued after detailed discussions with stakeholders, have been implemented.

KSERC recommended that merit order principles be followed in the purchase of power, that a consumer grievance forum be set up, and that Ombudsmen be appointed. It also issued regulations mandated under the Electricity Act, 2003, including those regarding Open Access and the Kerala Electricity Grid Code.

Areas of improvement
The power tariffs in the State are yet to be rationalised, although on the contrary in January 2006, the tariffs for domestic and commercial consumers were reduced by 20 paise. Cross-subsidies between customer categories need to be reduced. KSERC has initiated a cost of service study to look into the issues relating to rationalisation of tariff slabs and cross-subsidies, but is yet to finalise its findings.

The Commission has recommended that GoK meet the revenue gap for 2004-05 through a cash subsidy, but GoK is yet to take a decision on the recommendation. The Commission needs to develop a multi-year framework to determine tariff, which is a requirement under the National Tariff Policy.

Operational performance

Key positives

The rate of failure of distribution transformers (DTRs) was low at 4.2 per cent in 2004-'05, and this was complemented by a high availability of transmission lines (99 per cent). The manpower employed in transmission and distribution per 1000 consumers was a comfortable 2.98 per 1000 consumers.

KSEB has metered a significant number of units (74 per cent) input into the system. In fact, the metering for the State, including agricultural consumers, is almost 100 per cent. The metering at the interface level is also 100 per cent. The auxiliary power consumption for both hydel and thermal generation stations are at near normative levels. The manpower employed in generation, both thermal and hydel, are as per the benchmarks.

Areas for improvement

The Aggregate Technical & Commercial (AT&C) losses were high at 32 per cent in 2004-'05. Added to this, DTR metering was extremely low. Energy audits need to be conducted for the entire system, rather than for select sections, as is done currently.

Finances

Key positives

The cash coverage of costs for 2004-05 was about 104 per cent. The adjusted book losses were significantly lower in 2005 than in 2002, primarily owing to the lower purchase of power costs, costs of power generation, and interest and finance charges. The board has swapped high cost outstanding debt of Rs. 15.55 billion, leading to an annual saving of Rs. 374.30 million on interest and finance charges. KSEB has also restricted fresh borrowings and repaid debts, thus reducing outstanding debt as on March 31, 2005 to Rs. 45.41 billion from Rs. 53.55 billion as on March 31, 2004. KSEB has consistently met its debt obligations, other than on State Government loans on time.

Areas for improvement

The subsidy receivable from GoK has accumulated over a period of time and has increased to Rs. 43.25 billion as on March 31, 2005 which strains the financials of KSEB. KSEB has a negative net worth when adjusted for this subsidy receivable. The receivables have increased to 153 days in 2005, compared to 133 days in 2004, mainly on account of poor collections from state government departments. Creditors for power and fuel have increased to 105 days in 2005 from 65 days in 2004; the figure is significantly higher than the benchmark of 60 days. In addition, KSEB is yet to create a master trust to meet pension and gratuity liabilities of employees; this expense is expected to increase, and impact KSEB's financials.

Sustainability of state power sector revenue model

The extent of dependence of the state power utility in Kerala on state subsidy support has declined from 25% in 2003-04 to 10 % in 2004-05 of the total revenues. However, accumulated subsidies on the books of KSEB have increased from Rs. 39.8 billion in 2003-04 to Rs. 43.3 billion in 2004-05. In 2001-02, 74% of the consolidated expenditure other than non-cash items like depreciation and extra-ordinary expenses was recovered through revenues other than subsidies. This recovery ratio improved to 104% in 2004-05 primarily because of good hydel generation in 2004-05 leading to lower costs. Kerala is highly dependent on hydel energy; the only other alternative is thermal stations like Brahmapuram or Kayamkulam, which is a highly costly proposition due to the increasing prices of naptha and LSHS.

The finances of GoK's shows expenditure funding by various sources i.e. tax revenue and non-tax revenue have been at same levels. However the state's dependence on Grants from the centre has increased in 2004-05, which contributes 8% expenditure funding. GoK's Revenue deficit as a percentage to Revenue receipts continues to be high at 31.9% in 2004-05. Similarly, the Gross Fiscal Deficit has been consistently high, both in gross numbers and as a percentage of the Gross State Domestic Product (GSDP). Also, the state government's reliance on debt funding remains extremely high at almost 43% of the GSDP.

Creation of competitive environment

The state of Kerala continues to follow an integrated model whereby all the three functions of generation, transmission and distribution are handled by KSEB. In order to usher in competition and comply with the requirements of the Electricity Act 2003, OERC has already notified the 'Open Access Policy' for the state whereby consumers having a contracted demand above 10 MW are able to choose their power supplier.

TAMIL NADU

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

An overall score of 29.72 has been assigned to the power sector in Tamil Nadu. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**29.29**	**75%**	**21.97**
A	State Govt related parameters	*18.00*	*(8.00)*	*(1.49)*		
B	Regulatory Process	*9.00*	*(5.00)*	*1.50*		
C	Business Risk Analysis	*30.00*	*(7.00)*	*16.97*		
D	Financial Risk Analysis	*20.00*	*(1.00)*	*8.38*		
E	Others	*7.00*	*(2.00)*	*0.73*		
F	Progress in attaining commercial viability	*16.00*	*(2.00)*	*3.20*		
	Part-II	**100.00**	**0.00**	**31.00**	**25%**	**7.75**
A	Sustainability of state power sector revenue model	*50.00*	*0.00*	*16.00*		
B	Creation of competitive environment	*50.00*	*0.00*	*15.00*		
	FINAL SCORE	**100.00**	**(18.75)**			**29.72**

Strengths

- Significant accretions to generating capacity
- Strong performance of thermal plants
- Strong financial discipline; timely servicing of borrowings

Weaknesses

- Increasing subsidy burden, free power granted to agriculture consumers undermines commercial viability of the power sector
- Significant accumulated financial losses, and high gearing; limited financial support from Government of Tamil Nadu (GoTN)
- Functional unbundling yet to take place
- Annual Revenue Requirement (ARR) filing by TNEB has been tardy; only one ARR filing and consequently one order have been passed since the establishment of the Commission in 1999.
- Low metered sales, energy audit yet to be adopted on a continuous basis
- Pension liabilities yet to be quantified; currently being met as part of revenue expense
- Multi-year policy framework for tariff settings yet to be adopted

➲ Open access regulations in place; charges yet to be notified.

The State Government

Key positives

The state has had significant additions to its generating capacity in the recent past. The installed capacities of GoTN's generating plants have increased by 25.6 per cent to 8795.06 MW in 2004-05 from 7004.18 MW in 2001-02.

GoTN has made timely subsidy payments for 2004-05 as per the Commission's order.

Also the household electrification in the state increased to 84.4 per cent in 2004-05 from 75.5 per cent in 2001-02.

Areas for improvement

Tamil Nadu Electricity Board (TNEB) had accumulated losses of Rs. 35.11 billion as on March 31, 2005. In the year 2004-05 it incurred a net loss of Rs. 11.16 billion. GoTN provides limited subsidy support; this is in the form of allowing TNEB to retain electricity duty and partially by way of cash. Therefore, the losses incurred by TNEB can be reduced partly by vigorous implementation of anti-theft measures. At present, collections from anti-theft measures form only a miniscule percentage of the total losses.

TNEB is required to provide free power to agricultural consumers. Though power supplied to the agricultural consumers is compensated by the State government, free power puts a burden on the State's finances. The subsidy bill for 2005-06 is expected to be Rs. 11.66 billion. This represents a sharp increase compared to the subsidy bill for 2001-02, which was Rs. 3.23 billion.

The cases of delay in /non-compliance with the implementation of targets set by the Electricity Act, 2003, constitute another area of concern for the power sector. The Act stipulates that a regulatory fund be set up for SERC, assessing officers be appointed as per Section 126, district level committees be constituted and their functioning monitored, and special courts be set up to deal with cases of theft. These areas are yet to be addressed by GoTN.

Regulatory process

Key positives

Tamil Nadu Electricity Regulatory Commission (TNERC) last issued a tariff order in 2003-04, which has been implemented. The Commission has passed a regulation making it mandatory for TNEB to file an average revenue realisation (ARR) for each financial year before November 30 of the preceding year. TNEB is in the process of filing an ARR for 2005-06 and 2006-07 by June 2006.

TNERC's recommendations such as introducing merit order principles for the purchase of power, and time of day tariff for consumers have been implemented. The Commission has also issued regulations mandated under the Electricity Act, 2003, including those regarding standards of performance for distribution licensees, open access and the State Electricity Grid Code.

Areas for improvement
Timely filing of ARR and issue of tariff orders will help the utility to recover the costs for entire year. Reduction in cross-subsidies will help retention of high value consumers and rationalisation of tariff slabs will help administering the tariffs simpler. These measures will be in line with the reform spirit. Adoption of multi-year framework to determine tariff is a requirement under the National Tariff Policy.

Operational performance

Key positives
The operational performance of thermal plants of TNEB is good, with plant load factors (PLFs) for the last three years averaging 75.6 per cent. The availability of the thermal and hydel plants has been high, too, averaging 81 per cent in the last three years but it is still lower than normative levels by 5%. The auxiliary consumption at the generating stations is better than the normative levels. The rate of failure of distribution transformers (DTR) though higher than the benchmark of 5% is low (6.87 per cent) compared to other states in 2004-05. The availability of the transmission lines was almost 100 per cent. The manpower employed in transmission and distribution and hydel generation is as per the benchmark levels.

Areas for improvement
Metering levels have to improve at the consumer end for a better estimation of energy flows. Further, energy audits need to be completed for the entire system, and not selectively, as is being done at present. The extremely low DTR metering level continues to be a cause for concern. The manpower employed per MW in the thermal stations is significantly higher (4.50) than the prescribed benchmark of 0.96.

Finances

Key positives
TNEB had reduced its losses in 2004-05, but the accumulated losses were still a sizable Rs. 35.11 billion as on March 31, 2005. Creditors for power and fuel are under control at 56 days. Further TNEB, unlike some of the other SEBs, has been prompt in servicing its debt obligations on commercial borrowings as well on borrowings from the State government.

Areas for improvement
GoTN's policy of providing free power to agricultural consumers is likely to impact the commercial viability of the power sector. TNEB's gearing at 6.11 times as on March 31, 2005, is on the high side. Though the receivables have been stable at 80 days, the figure

is still higher than the prescribed benchmark of 60 days. A substantial portion of the receivables is from state government bodies. The collections from GoTN departments need to get better to improve TNEB's liquidity position. The gap between the average for revenue realisation (ARR) and average cost of supply (ACS) needs to be further reduced to make TNEB commercially viable. In addition, TNEB needs to create a master trust to meet pension and gratuity liabilities of employees.

Sustainability of state power sector revenue model

Currently, Govt. of Tamil Nadu has a policy of providing free power to agricultural consumers in the State, which poses a high dependence on the State Government by way of subsidies. The subsidy bill rose sharply from Rs. 3.23 billion in 2001-02 to Rs. 9.25 billion in 2004-05. In 2001-02, 84% of the expenditure other than non-cash items like depreciation and extra-ordinary expenses was recovered through revenues other than subsidies. This recovery ratio improved to 90% in 2003-04 however again deteriorated in 2004-05 to 88%. Also GoTN has not maintained a strong stand against populist measures on a consistent basis, which has increased its revenue expenditure and affected its deficit levels.

Agricultural consumption, which is on rise, as well as the fact that it is offered round the clock and is free, has led to sharp increase in subsidy bill. Agricultural consumption is not adequately metered so also the fact that new connections even at present is being given without meter. Considering that these issues reflect in the disposition of the GoTN towards agricultural consumers; increased subsidy bill in future is almost a certainty.

Creation of competitive environment

The state of Tamil Nadu continues to follow an integrated model whereby all the three functions of generation, transmission and distribution are handled by TNEB. In order to usher in competition and comply with the requirements of the Electricity Act 2003, TNERC has already notified the 'Open Access Policy' for the state whereby consumers having a contracted demand above 10 MW are able to choose their power supplier. Tamil Nadu also has a captive power policy in place according to which captive generators of units having capacity 2000 KVA and above can opt for banking scheme or power feed scheme by paralleling their captive generation units with the grid.

ASSAM

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of 28.46 has been assigned to the power sector in Assam based on the data available till May 2006. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weight age	Final Score
	Part-I	**100.00**	**(25.00)**	**29.95**	**75%**	**22.46**
A	State Government Related Parameters	*18.00*	*(8.00)*	*7.0*		
B	SERC Related Parameters	*9.00*	*(5.00)*	*3.15*		
C	Business Risk Analysis	*30.00*	*(7.00)*	*6.45*		
D	Financial Risk Analysis	*20.00*	*(1.00)*	*5.50*		
E	Others	*7.00*	*(2.00)*	*2.25*		
F	Progress in attaining commercial viability	*16.00*	*(2.00)*	*5.60*		
	Part-II	**100.00**	**0.00**	**24.00**	**25%**	**6.00**
A	Sustainability of revenue model	*50.00*	*0.00*	*8.00*		
B	Creation of a competitive environment	*50.00*	*0.00*	*16.00*		
	FINAL SCORE	**100**	**(18.75)**			**28.46**

Strengths

- Substantive steps are being taken by the Government of Assam (GoA) in terms of reforms and restructuring the sector, aided by financial assistance from Asian Development Bank (ADB) under its Assam State Power Sector Development and Rural Electrification programmes
- Assumption of several outstanding liabilities of ASEB by GoA in FY 2004-05 and FY 2005-06 will improve ASEB's liquidity position.
- SERC has issued three tariff orders, which have been already implemented.
- Operating losses, on accrual basis, have by and large shown a downward trend since 2001-02 while cost coverages on both accrual and cash basis have shown an improvement in 2004-05.

Weaknesses

- Continuing weak financial position with gap between Average Revenue Realisation (ARR) and Average Cost of Supply (ACS) remaining at over 80 paise / kWh.
- Inadequate and high cost of own generation
- Weak transmission and distribution network, resulting in ATC losses remaining high at around 40% in the previous three years.
- Poor track record in electrification of households and addition to generation capacity in the state sector

The GoA has committed itself to the Financial Restructuring Plan as part of the ADB led reforms programme (Assam Power Sector Development and Development of Rural Electrification) and is more or less meeting its financial commitments. The Board has been unbundled along functional lines and five successor entities- a generating company, a transmission utility and three distribution companies became operational during FY 2006. In addition, the ASEB will continue to function as a holding entity for all the successor companies and will undertake the residual functions like power trading, co-ordination and facilitation of programs like RE works. The reform process is being aided by ADB as part of its Assam Power Sector Development Program and Development of Rural Electrification. Till date, ADB has sanctioned two lines of credit - one of USD 150 million for funding the financial reforms in the state power sector and another of USD 100 million to fund investments in T&D infrastructure, billing systems, RE works etc. The disbursement against the same is subject to certain pre conditions, compliance with which is being monitored on a regular basis. GoA has also notified the setting up of special courts, appointment of assessing officers and setting up of district level committees as per the provisions of Electricity Act 2003 and these measures are in the process of being implemented.

The State Electricity Regulatory Commission, which was set up in August 2001, is currently a three member Commission, headed by a Chairman. No separate fund has been set up by the GoA for meeting the Commission's expenses although adequate budgetary provision is being made for the same. SERC has issued tariff orders till 2005-06, with the order for FY 2006 being issued in May 2005. The tariff order has sought to rationalise the fixed charges and promote merit order despatch. While the SERC has laid

down the general principles of the multi-year tariff policy, the details have yet to be worked out given the lack of sufficient data on many technical parameters. The cross subsidy issue has also been left untouched with the hope that Board's efficiency improvements and natural load growth will address the same in coming years although the AERC has started work on estimating the segment-wise cross subsidy on a scientific basis during the current financial years. The Commission has already issued several guidelines pertaining to matters such as Conduct of Business Regulations, Redressal of Consumer Grievances, performance standards of licenses and state grid code. However, an Ombudsman is yet to be appointed.

There has been no significant change in the area of generation from that witnessed during the last assessment, with ASEB not operating either the 240 MW coal-based Bongaigaon thermal power station (BTPS) or the 60 MW Chandrapur thermal power station (CTPS) in 2003-04 and 2004-05. Only the gas-based plants at Lakwa (LTPS) and Namrup (NTPS) are currently generating power, which too is constrained by the inadequate supply of gas (in LTPS) and the condition of equipment (in NTPS). The technical and commercial losses in Assam continue to remain high at around 40%. On the positive side however 100% metering at the 11KV feeder level has been achieved while 90% of the consumers have been metered. In order to improve the quality of power supplied, the Board is also focussing on improving its sub-transmission and distribution network. As mentioned earlier, a major part of the USD 100 million loan from ADB is proposed to be earmarked for the T&D projects.

Although the existing financial health of ASEB remains weak, in 2004-05, financial parameters such as profitability, cost coverages and the difference between ARR and ACS showed an improvement. This arose out of an increase in sales volumes, higher tariff realisations and ASEB's ability to control costs by cutting down on purchase of higher cost power. Thus, the ratio of ARR/ACS improved from 59% in 2003-04 to 74% in 2004-05 while the average adjusted book losses during FY 2002-05 of Rs. 4.27 billion was lower as compared to losses of Rs. 6.4 billion in FY 2002. Although, ASEB continued to report losses, financial assistance being provided by the GoA has resulted in ASEB clearing its defaults during FY 2006. ICRA expects the same trend of reducing losses to be continued arrested with the unbundling of the ASEB, the completion of 100% metering programme at 11 kV level, progress in consumer metering and commencement of energy audit.

Overall, the information systems needs further improvement – computerised billing is yet to be implemented in a large scale, although the work on the same is currently underway; the availability of information also has a lot of scope for improvement.

Sustainability of the revenue model of the power sector:

The state of Assam appears to be reducing its losses in the past two financial years as evident from the table below :

Figures in Rs in billion	2004-05	2003-04	2002-03	2001-02
Operating Income	10.01	8.83	8.25	6.93
Add: Decrease in Debtors related to sale of power	-0.36	-0.64	0.19	0.63
Less: subsidy received	0.70	0.00	0.80	0.52
Less: All exp incl depreciation	11.19	13.20	12.31	13.36
Adjusted Book Loss (net of subsidy)	-2.24	-5.92	-4.65	-6.41
Avg. 2002-05	-4.27			

While no numbers are available for FY 2006, ICRA expects the same trend of reducing losses to be continued arrested with the unbundling of the ASEB, the completion of 100% metering programme at 11 kV level, progress in consumer metering and commencement of energy audit. Also, the financial position of the Board will also be helped the fact that GoA has assumed several past liabilities of the erstwhile ASEB in terms of the FRP drawn up and approved in 2003. This includes takeover by GoA of liabilities in case of a) REC/LIC loans b) public bonds c) dues owed to other State Boards like the West Bengal State Electricity Board and Meghalaya State Electricity Board d) post securitisation dues of the CPSUs till 30th June 2002 and funding of cash deficits of the Board or its successor entities during the transitional phase. Further, GoA is being helped in its financial commitments towards the reforms in power sector by ADB, which has already sanctioned USD 150 million for the purpose, thus the ability of the State Government to sustain this is not in doubt. Nonetheless, given the magnitude of losses (Gap between ARR and ACS was more than 90 paisa for the year ended 2004-05), ICRA expects the Assam based utilities to continue reporting losses in the medium term.

Creation of a competitive market-place

One of the fundamental preconditions for creating a competitive market place, unbundling the sector on functional lines and separation of trading and transmission functions has already been completed with the State separating the generation, transmission, distribution and trading functions. However, as far as information is available with ICRA, competitive bidding for power has yet to commence in the state.

AERC has come out with regulations on allowing open access in transmission and distribution of power. As per the time table, open access for smaller customers with connected load above 1 MW will be completed in a phased manner by December 31, 2008. Companies availing of open access shall pay transmission charges, wheeling charges, Cross Subsidy Surcharge (CSS) and an additional surcharge payable to the discom for meeting its fixed costs. As per AERC, CSS is to computed so as to meet the

current level of cross –subsidy for that category of customer. However the exact amount has yet to be notified. CSS would however not be payable by the captive consumers. As far as electricity duty is concerned, ASEB officials have informed us that the ED is non-discriminatory to captive generators. The Assam Transco has yet to implement ABT as meters are yet to be installed. However, they expect it to be implemented with a years time.

RAJASTHAN

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

An overall score of 27.80 has been assigned to the power sector in Rajasthan. The distribution of marks against the various parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**23.73**	**75%**	**17.80**
A	*State Govt related parameters*	*18.00*	*(8.00)*	*6.43*		
B	*Regulatory Process*	*9.00*	*(5.00)*	*4.00*		
C	*Business Risk Analysis*	*30.00*	*(7.00)*	*5.00*		
D	*Financial Risk Analysis*	*20.00*	*(1.00)*	*6.00*		
E	*Others*	*7.00*	*(2.00)*	*3.50*		
F	*Progress in attaining commercial viability*	*16.00*	*(2.00)*	*(1.20)*		
	Part-II	**100.00**	**0.00**	**40.00**	**25%**	**10.00**
A	*Sustainability of state power sector revenue model*	*50.00*	*0.00*	*16.00*		
B	*Creation of competitive environment*	*50.00*	*0.00*	*24.00*		
	FINAL SCORE	**100.00**	**(18.75)**			**27.80**

Strengths

- Strong role of the state government in facilitating capacity addition in generation
- Comfortable operational profile of the generating stations.
- Low level of power & fuel purchase creditors
- Well-developed regulatory process.
- Conducive policy for captive generators.
- Buoyancy in state finances with declining revenue deficits.

Weaknesses

- High AT&C losses at over 46 per cent.
- Low cash cost coverage of 77 per cent and an increasing trend in adjusted book losses with a rising dependence on state subsides.
- High cross-subsidy surcharge and other expenses hindering the implementation of 'Open Access Policy' in the state.
- Delays in filing of ARRs and issue of tariff Orders.

- High manpower strength at Transmission & distribution levels (7.3 employees per 1000 consumers).
- A Negative Networth of the consolidated power utilities in the state.
- High level of unmetered agricultural consumers along with almost nil DTR metering leading to a weak energy audit system.
- Low household electrification levels compared to neighbouring states.

The State Government

Key Positives

Govt. of Rajasthan is making efforts to expand the generation capacity within the state wherein over 800 MW of additional capacity has already been commissioned during the past since March 2002.

Areas of Improvement

Low household electrification of 52% remains an area of concern.

Regulatory Process:

Key Positives

RERC has come out with regulations such as Guidelines for setting of Forum for redressal of Consumer grievances and Ombudsman as per the Electricity Act 2003 and has brought out strict directives for the distribution companies for improvement in efficiency levels. Further, the state government has come out with necessary actions as per Electricity Act 2003 such as setting up of Special Courts and Police stations for trial of theft related cases, setting separation of trading function and constitution of district level committees have already been taken up. The regulator has also issued multi-year tariff policy.

Areas of Improvement

The timeliness of the tariff orders is an area of concern. The Annual Revenue Requirement by all the utilities for 2005-06 was filed in January 2005 and tariff order issued only in September 2005, while there have been significant delays in the previous orders too. The Time-of-day tariff needs to be introduced in the state of Rajasthan as has been implemented in other states.

Operational Parameters (Generation, Transmission and Distribution):

Key Positives

The performance of the generating plants in the state sector has been satisfactory, demonstrated by high levels of plant availability (>87 per cent) and plant load factor

(PLF) in excess of 84 per cent. All of the utilities have been timely in preparation of Annual Accounts.

Areas of Improvement
The AT&C Losses continue to be at high levels (> 46 per cent for the entire state) and have been shoeing an upward trend since 2001-02 when the AT&C losses were approximately 44 per cent. There is a need to improve metering as the units billed on metered basis form only about 42% of the total power input into the state.

The power sector has high manpower strength, especially in the T&D sector where there are roughly 7.2 employees per 1000 consumers.

There is a need to improve the T&D infrastructure appreciably as the transformer distribution failure rates are at a high level of 15.27 per cent, which has actually increased over the last two years. The state is yet to achieve 100% interface metering with only around 89% of the 11KV feeders being metered. Further, the Discoms need to step up their efforts to have strong energy audit system and there is an urgent need to take up complete Distribution transformer metering, consumer indexing and consumer metering. Further, there has been a very low level of adoption of IT in the operations of the utilities in the state.

Financial Risk Analysis:

Key Positives

The creditors of purchase of power and fuel are at a low level of 24 days of the total fuel and power purchases. Also, the servicing of the pension liabilities is being taken care of by two trusts, which are being adequately funded based on actuarial valuation. Debt repayment record during FY05 of entities other than Jodhpur VVNL has been good.

Areas of Improvement
There has been an overall deterioration in the standalone financials of the Rajasthan power utilities with no tariff increase, rising receivables and a greater dependence on state subsidies. Cash Cost coverage for the overall state sector net of subsidy from the state government is a low 77 per cent in FY05, which has declined from 83 per cent in FY02. As a result, the difference between Average Revenue Realised and Average Cost of Supply has been rising, which is partly funded through subsidies and additional debt. The power sector debt levels have also increased substantially and there is a significant quantum of subsidy receivable from the state govt., which once taken out leads to a negative networth for the state utilities as a whole. Further, the receivable levels for the two DISCOMs have increased to 92 days of annual sales in FY05 from 68 days in FY02.

Sustainability of state power sector revenue model

In the absence of any tariff increase over the past three years and high and rising levels of AT&C losses, the extent of dependence of state power utilities in Rajasthan on state subsidy support has been rising. Whereas, in 2001-02, almost 90% of the consolidated expenditure other than non-cash items like depreciation and extra-ordinary expenses was recovered through revenues other than subsidies, such recovery ratio has fallen below 80% in 2004-05. At the same time, the proportion of subsides in the total revenues have gone up. With only a modest level of collection efficiency at around 80-85%, there is an urgent need to enhance the operational efficiency of the distribution companies in Rajasthan.

On the other hand, the finances of Government of Rajasthan are marked by high growth in revenue receipts which have been growing at a CAGR of around 13% driven by a strong growth in tax revenues; both internal and share in central taxes. At the same time revenue expenditure have been rising at a lower CAGR of around 8% resulting in a continuously falling revenue deficits both in gross terms and a percentage of the revenue receipts; this ratio falling from over 31% in 2001-02 to around 15% in 2004-05. However, the state still continues to have a significant dependence on central government, which contributes to almost 40% of the revenue receipts. Further, the state government's reliance on debt funding remains extremely high at over 55% of the Gross State Domestic Product (GSDP). The Government of Rajasthan provides subsidies to various categories of power sector consumers, primarily agricultural and domestic consumers. In absence of any tariff hike for past three years, the quantum of subsidies has been rising rapidly. Power sector subsidies are increasingly contributing to a higher share of the revenue deficit in the state e.g. State revenue deficit in 2004-05 could have been halved in the absence of such subsidies. The rapidly increasing dependence of state power utilities on state subsides is a cause of concern, especially in light of the modest size of the state budget. Such high growth in power sector subsides can easily undermine the success achieved by the GoR in reducing its revenue deficit position over the past few years.

Creation of competitive environment

Rajasthan was one of the first states in India to unbundle. RSEB was unbundled in July 2000 into a transmission company, Generation Company and three distribution companies. Further, as per the mandate of the EA 2003, the procurement and bulk supply of power and trading of power and PPAs were transferred to the three distribution companies on 28.2.2004.

The state regulator, RERC, has already notified an 'Open Access Policy' and consumers having a contracted demand above 5 MVA are already enjoying its benefits. Charges under open access policy have also been notified. At the current levels of cross-subsidy surcharge, wheeling and other charges applicable to the open access consumer in Rajasthan, it works out marginally more expensive than the grid tariff, even after

assuming that HT consumers are able too procure power from third sources at rates as low as Rs. 2.25/kwh. Such high level of open access charges is primarily driven by high cross-subsidy surcharge. This hinders the actual implementation of the 'Open Access Policy' in the state, which could have ushered in a competitive market scenario. However, cconsidering the level of current charges, it is favourable for high power consuming consumers to go for captive generation provided they are able to generate or procure power at reasonable levels (e.g. below Rs. 3-3.50/kwh).

On an overall basis, though the policy framework for creating a competitive environment in power sector in the state exists, downward revision in cross-subsidy surcharges is required to make it feasible for customers in the state to access power through open access policy.

PUNJAB

POWER SECTOR

Report to Ministry of Power

June 2006

EXECUTIVE SUMMARY

An overall score of 27.69 has been assigned to the power sector in Punjab. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weight age	Final Score
	Part-I	**100.00**	**(25.00)**	**26.25**	**75%**	**19.69**
A	State Govt. related parameters	*18.00*	*(8.00)*	*(1.05)*		
B	Regulatory Process	*9.00*	*(5.00)*	*(0.25)*		
C	Business Risk Analysis	*30.00*	*(7.00)*	*12.82*		
D	Financial Risk Analysis	*20.00*	*(1.00)*	*7.88*		
E	Others	*7.00*	*(2.00)*	*2.25*		
F	Progress in attaining commercial viability	*16.00*	*(2.00)*	*4.60*		
	Part-II	**100.00**	**0.00**	**32.00**	**25%**	**8.00**
A	Sustainability of state power sector revenue model	*50.00*	*0.00*	*16.00*		
B	Creation of competitive environment	*50.00*	*0.00*	*16.00*		
	FINAL SCORE	**100.00**	**(18.75)**			**27.69**

Strengths

- Sound operating performance of generating plants
- High level of household electrification

Weaknesses

- Free power granted to agriculture undermines the commercial viability of the power sector; power subsidy contributes 31% of states revenue deficit
- Non cash nature of subsidy compensation by State Government
- Regulatory process needs to be strengthened in terms of timely filing
- Functional unbundling yet to take place
- Low metered sales at 54 per cent of the total units input in the system
- High Aggregate Technical and Commercial losses at 24.94 per cent
- High failure rate of distribution transformers
- Pension liabilities yet to be quantified; currently being met as part of revenue expense

The State Government

Key positives
Household electrification in the State increased to 95.5 per cent in 2004-05 from 85.1 per cent in 2001-02.
Areas for improvement
The Government of Punjab (GoP) pays in cash the annual balance subsidy after adjustments for interest payable on government loans and the electricity duty by the Punjab State Electricity Board (PSEB). This non-cash nature of subsidy remittance (to the extent of adjustment against interest payable) strains the liquidity position of PSEB.

More than three years after withdrawing free power, GoP has reverted to the old policy and announced free power for all agricultural consumers from September 1, 2005, which is expected to have an annual additional burden of Rs. 4.5-5.0 billion on the state exchequer. Also free power units were increased to 200 from the present 50 units per month for a particular category of consumers.

The cases of delay in /non-compliance with the implementation of targets set by the Electricity Act, 2003, constitute another area for improvement for the power sector. The Act stipulates that a fund be set up for the Punjab State Electricity Regulatory Commission (PSERC), that district level committees and special courts for theft-related cases be constituted, and that an Ombudsman be appointed. These issues are yet to be addressed by GoP.

Regulatory Process

Key positives
PSERC has, in its tariff recommendations, suggested measures to reduce cross subsidy levels in the system.

PSERC has recommended the application of merit order principles for purchase of power. It has also issued orders for the setting up of a consumer grievance forum, and the appointment of an Ombudsman for the State. PSERC has also issued a regulation on Open Access, as mandated by the Electricity Act, 2003.

Areas for improvement
Timeliness of the tariff orders as well as filing of the petitions by the Board need to improve. Adoption of multi-year framework for determining tariff is yet to be done, which is also a requirement under the National Tariff Policy. Regulations on the performance standards of distribution licensees under Section 57, and on the specifications for the state grid code are also yet to be issued.

The Board needs to ensure compliance with regulatory directives issued in the tariff order for 2005-06, and previous years, especially with regard to issues such as metering, conducting energy audits, reducing T&D losses and employee costs, procedure of issuing commercial circulars, and conducting a cost of service study.

Operational performance

Key positives

The performance of the generating plants in Punjab has been sound, with plant load factors (PLFs) for the last three years averaging 75.9 per cent. The availability of its thermal and hydel plants was also high, averaging 85 per cent over the last three years. The auxiliary consumption of the generating stations was near normative levels. The availability of transmission lines was high at 99 per cent.

Areas for improvement

The manpower employed per MW generated at PSEB's thermal stations is high (3.27) compared to the benchmark of 0.96. Also the manpower employed in transmission and distribution is high (10.41 per 1000 consumers) compared to the benchmark of 4 per 1000 consumers.

Energy audit is at a very preliminary stage and can be significantly expanded. DTR metering which is a primary requirement for effective energy auditing is extremely low.

The DTR failure rate remains high (11.4 per cent as in 2004-05). The aggregate technical and commercial (AT&C) losses were also high (24.94 per cent as on March 31, 2005).

Finances

Key positives

PSEB's gearing has improved to 2.53 in 2004-05 from 5.41 in 2003-04. Its creditors for power and fuel are under control at 52 days of purchase. The cash coverage costs were about 83.8 per cent for 2004-05.

Areas for improvement

PSEB, which had reported a surplus of Rs 1.75 billion in 2003-04, has however reported a deficit of Rs. 38.34 billion in 2004-05. The deficit includes a subsidy write off from the State government relating to the period from 1998-99 to 2001-02 of Rs. 32.42 billion, which has impacted its financial position. Excluding the subsidy write off, the Board has reported a loss of Rs. 5.91 billion. This is owing to the increasing costs particularly those relating to power purchase and employees.

The Board has not serviced its debt obligations in a timely fashion on loans from the state government. In terms of debtor days, there was a marginal decline of 4.3 per cent to 67 days as on March 31, 2005 from the base year (2002) level of 70 days. It is still higher than the benchmark level of 60 days.

PSEB is yet to create a master trust to meet the pension and gratuity liabilities of its employees.

Sustainability of state power sector revenue model

The GoP provides subsidies to various categories of power sector consumers. The extent of dependence of the state power utility in Punjab on state subsidy support has declined from 28% in 2001-02 to 13 % in 2004-05 of the total revenues. However, in gross terms, the state subsidies continue to be very high. With GoP announcing free power again since September 2005 the subsidy bill is expected to increase by an additional Rs. 450 to 500 crores. Considering the State's revenue deficit position it would be difficult for GoP to sustain subsidies even at current levels.

In this scenario, in case GoP continues with its current policy of free power to agriculture quantum of subsidies would further increase which could place a strain on the financials of the state.

Creation of competitive environment

The state of Punjab continues to follow an integrated model whereby all the three functions of generation, transmission and distribution are handled by PSEB. In order to usher in competition and comply with the requirements of the Electricity Act 2003, PERC has already notified the 'Open Access Policy' for the state whereby consumers having a contracted demand above 15 MW are able to choose their power supplier.

CHATTISGARH

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of 27.45 has been assigned to the power sector in Chhattisgarh. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**19.60**	**75%**	**14.70**
A	State Govt related parameters	*18.00*	*(8.00)*	*(2.74)*		
B	Regulatory Process	*9.00*	*(5.00)*	*4.00*		
C	Business Risk Analysis	*30.00*	*(7.00)*	*9.76*		
D	Financial Risk Analysis	*20.00*	*(1.00)*	*6.51*		
E	Others	*7.00*	*(2.00)*	*0.87*		
F	Progress in attaining commercial viability	*16.00*	*(2.00)*	*1.20*		
	Part-II	**100.00**	**0.00**	**51.00**	**25%**	**12.75**
A	Sustainability of state power sector revenue model	*50.00*	*0.00*	*32.00*		
B	Creation of competitive environment	*50.00*	*0.00*	*19.00*		
	FINAL SCORE	**100.00**	**(18.75)**			**27.45**

Strengths

- Revenue surplus position of Chhattisgarh State Electricity Board (CSEB) since formation in 2000
- Low subsidy requirement from state government. However, this may increase in the future
- Favourable consumer mix
- Sound operating performance of the generating plants
- State Government has been proactive in notifying a captive power policy

Weaknesses

- Non-implementation of Electricity Act 2003 related parameters – unbundling of transmission and trading functions, functional unbundling of utilities, and constitution of special courts
- Non-availability of audited financial statements due to ongoing dispute with Madhya Pradesh State Electricity Board (MPSEB).
- Absence of an established Regulatory Process in the state – first ARR filed with the Regulator for 2005-06
- Low levels of household electrification in the state, at about 48 per cent
- Low levels of interface and Distribution Transformer (DTR) metering

The State Government

Key positives
The Government of Chhattisgarh (GoCG) has been proactive in inviting investors to set up generation capacity in the state, consistent with its stated policy of making Chhattisgarh a power hub. A number of private power projects are at various stages of development, and will add approximately 2300 MW over the next 3-4 years.

Areas of Improvement
GoCG, as a 100 per cent owner of the utilities, has not played its envisaged role under the Electricity Act 2003. Under the act, the envisaged role involves facilitating the functional unbundling of utilities, bifurcation of the transmission and trading functions, and setting up special courts for anti-theft cases. In Chhattisgarh, electrification of households too is low, at 48 per cent.

Regulatory Process

Key Positives
The Chhattisgarh State Electricity Commission (CSERC) has been functional with effect from July 1, 2004 and has issued regulations with respect to the State Advisory Committee, Electricity Supply Code and Conduct of Business. Final regulations have also been framed with respect to License Regulations, Open Access, redressal of consumer grievances, and appointment of Ombudsman. CSERC completed the appointment of the Ombudsman with effect from February 8, 2006.

Areas of Improvement
The first tariff order for 2004-05 was passed on June 15, 2005 because of a delay in filing of the tariff proposal by CSEB and due to lack of historical data. Compliance with CSERC's directives is also an area of improvement. The multi-year tariff policy, which is a requirement as per the National Tariff Policy, has been deferred due to unavailability of adequate data.

Operational Performance

Key Positives
The operational parameters with respect to the thermal plants of CSEB show an encouraging performance trend: Plant Load Factor (PLF), availability, and auxiliary power consumption levels, are above average, in relation to the specified benchmarks. Agricultural load is a small component of overall energy sales. Hence, the ratio of metered sales to overall energy handled in the system is favourable, leading to a lower AT&C loss level.

Areas of improvement
The metering at the consumer end has to increase for a better estimation of the energy flow in the system. Further, the energy audit needs to be completed for the entire system and not selectively, as it is being done presently. DTR metering is also extremely low.

The manpower ratio in thermal generation of 3.45 employees per MW is on the higher side, compared with a benchmark of 0.96 employees per MW. The manpower level of 0.99 per MW at CSEB's hydel plants compares favourably with the benchmark of 2 employees per MW.

Finances

Key Positives
CSEB currently reports a revenue surplus. Creation of the Master trust and funding of employee pension and gratuity liabilities, though partially, are seen as a positive step.

Areas of improvement
Absence of audited financial statements remains a major bottleneck due to the continuing dispute between MPSEB and CSEB on the allocation of past liabilities. Consequently debt servicing of allocated and unallocated liabilities has been compromised.

Sustainability of state power sector revenue model

CSEB's dependence on state subsidy has been limited to only Rs. 246 million (1 per cent) of the Board's revenues. However, in order to shield itself from competition from open access and captive generation, CSEB will be forced to reduce HT and industrial tariffs and increase agricultural and domestic tariffs. This could result in higher demands of subsidy from the State government.

GoCG reported a revenue surplus of Rs. 1458 million in 2004-05 and based on revised estimates, will report a revenues surplus of Rs 7820 million in 2005-06. However, the additional subsidy payouts could be a constraint on the state's finances.

Creation of competitive environment

CSERC has issued regulations for open access in the state with users requiring 10 MW or above eligible for open access from April 1, 2006. Users requiring 1 MW and above will be allowed to opt for open access from April 1, 2008. However, there is no provision for open access for less than 1 MW. Based on the charges defined for open access at 132 KV, it is relatively cheaper for these consumers to opt for power purchases through open access than from CSEB. This will also force the CSEB to reduce tariffs to match open access tariffs, resulting in higher tariffs for cross-subsidised categories. GoCG has also been proactive in notifying a captive power policy that allows a number of industrial consumers like Jindal Steel & Power, BALCO and Lafarge to set up captive power plants.

UTTARANCHAL

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of 27.06 has been assigned to the power sector in Uttaranchal. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**23.08**	**75%**	**17.31**
A	State Govt related parameters	*18.00*	*(8.00)*	*3.04*		
B	Regulatory Process	*9.00*	*(5.00)*	*4.00*		
C	Business Risk Analysis	*30.00*	*(7.00)*	*10.32*		
D	Financial Risk Analysis	*20.00*	*(1.00)*	*3.25*		
E	Others	*7.00*	*(2.00)*	*1.17*		
F	Progress in attaining commercial viability	*16.00*	*(2.00)*	*1.30*		
	Part-II	**100.00**	**0.00**	**39.00**	**25%**	**9.75**
A	Sustainability of state power sector revenue model	*50.00*	*0.00*	*14.00*		
B	Creation of competitive environment	*50.00*	*0.00*	*25.00*		
	FINAL SCORE	**100.00**	**(18.75)**			**27.06**

Strengths

- Consumer metering level is at 92 per cent, with a high proportion of electronic meters.
- The Regulator has reduced cross-subsidies across customer categories, implemented merit order despatch principles, and rationalised tariff slabs etc. in its tariff orders
- Auxiliary consumption of the State's hydel plants is better than the normative level
- Unbundling along functional lines; including separation of trading function completed
- The State Government encourages the setting up of captive power plants and has notified policies for power plants up to 25 MW, 25 MW to 100 MW and above 100 MW

Weaknesses

- Regulatory process needs to be strengthened in terms of timely filing by the utilities
- Regulatory directives relating to reduction in employee costs, time-bound metering of un-metered consumers, meter reading, and billing and collections have not been complied with
- Household electrification is low at 53 per cent

- Distribution transformer (DTR) metering is low at 27 per cent. This has to be improved in order to conduct effective energy audits
- DTR failure rate is high at 19.22 per cent in 2004-05 and has worsened from 18.39 per cent in 2003-04
- No addition has been made to the generation capacity in the last three years

The State Government

Key Positives

The Government of Uttaranchal (GoU) has constituted 13 Special Courts in every district for the trial of offences related to the misuse and theft of electricity. GoU has also designated Executive Engineers as Assessing Officers and constituted District level Committees, as required under the Electricity Act, 2003.

Areas for Improvement

GoU has constituted anti-theft teams recently, in 2005-06; the effectiveness of these teams in curtailing the theft of electricity is yet to be seen. There has been no capacity addition in the State over the past three years. Moreover, GoU is yet to notify rural areas as required under Rajiv Gandhi Gramin Vidyutikaran Yojana (RGGVY). GoU has yet to establish a fund for the Regulatory Commission.

Regulatory Process

Key Positives

Uttaranchal Electricity Regulatory Commission (UERC) has issued its first tariff order for 2003-04 on September 8, 2003. The next tariff order for 2005-06 was issued on April 25, 2005. The commission has taken steps to rationalise prevailing tariffs, minimise the number of categories of consumers, reduce cross-subsidies, and implement time of day (TOD) tariffs in the state.

Areas for Improvement

There have been significant delays in filing of ARRs by the state electricity utilities. The tariff order for 2003-04 was issued in September 2003 and was implemented in December 2003. The ARRs for 2004-05 and 2005-06 were filed only after the Commission commenced suo-moto proceedings against Uttaranchal Power Corporation Ltd., (UPCL). Further, a long-term tariff framework needs to be evolved, as mandated under the National Tariff Policy. There has been non-compliance with the Commission's directives such as creation of a Transitional Contingency Reserve fund, reduction in employee costs, time-bound metering of un-metered consumers, meter reading, and billing and collection. This has prompted the Commission to constitute a committee of experts to examine the quality and extent of compliance as stated by UPCL and provide their evaluation of the same to the Commission.

Operational Parameters (Generation, Transmission, and Distribution)

Key Positives
As the entire generating capacity is hydro-based, cost of electricity is relatively cheaper. Additionally, auxiliary consumption for the State's plants is also low at 0.32 per cent (three year weighted average). Consumer metering is high at 92 per cent, of which 88 per cent are fitted with electronic meters.

Areas for Improvement
The availability of Uttaranchal Jal Vidyut Nigam Ltd's (UJVNL's) hydel stations is only 75 per cent, which is 20 per cent lower than the benchmark of 95 per cent. Manpower levels at the hydel generation plants of UJVNL, at 2.76 employees per MW, are higher than the benchmark of 2 employees per MW, and have increased from 2.68 employees per MW in 2002-03. DTR metering is low at 27 per cent as on January 31, 2006. DTR failure rate was high at 19.22 per cent in 2004-05, increasing from 18.39 per cent in 2003-04. UPCL has not complied with the directives of the Commission for completing the metering of unmetered connections given to Government Bodies, Public Institutions, and Departmental Employees. An AT&C loss on a consolidated basis was high at 27 per cent in 2004-05.

Finances

Key Positives
Gearing (excluding State Government debt) was at 1.08 times as on March 31, 2005. Revenue–cost coverage was at 91 per cent in 2004-05.

Areas for Improvement
Receivables from sale of power were high at 263 days in 2004-05; creditors for power purchase at 420 days were also high. This is despite GoU taking over the Central Power Sector Undertaking (CPSU) dues as per the Ahluwalia Committee recommendations. The spread between Average Revenue Realisation and Average Cost of Supply has worsened over the past three years.

Sustainability of state power sector revenue model

Government of Uttaranchal (GoU) does not pay any subsidy to UPCL. Operating expenses including interest and excluding depreciation as a percentage of consolidated revenues have increased from 104% in 2001-02 to 110% in 2004-05, resulting in net losses in 2004-05. In a scenario where cross subsidies are reduced and revenues-cost coverage is insufficient, GoU would need to provide for subsidies for BPL / domestic connections.

GoU's own tax revenues, as a percentage of GSDP has remained stagnant at 7 percent from 2001-02 to 2004-05. The revenues deficit has widened from Rs. 996 million in 2001-02 to Rs. 10596 million in 2004-05. Any subsidy to be provided for BPL / domestic connections would be an additional strain on the state government's finances.

Creation of competitive environment

Open access regulations were issued by UERC in April 2004 and allowed users requiring 5 MW or above to opt for open access from December 31, 2005. Open access would be introduced in a phased manner with users requiring more than 1 MW eligible for open access from December 31, 2008. However, no time lines have been set for allowing open access to consumers requiring 1 MW or below. UERC has also not defined the charges that would be applicable for open access.

GoU encourages generation of power through small hydropower sources of energy, and has framed policies for the development of this sector. There are different policies for hydropower projects/stations with an installed capacity of up to 25 MW, hydropower projects/stations with an installed capacity of 25 MW and up to 100 MW, and hydropower projects/stations with an installed capacity of 100 MW. All IPPs would be able to sell power to Sell power to UPCL, to any HT consumer within Uttaranchal, to local rural grids within Uttaranchal that are not connected to UPCL's main grid, to any consumer outside the state.

TRIPURA

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of 26.51 has been assigned to the power sector in Tripura based on the data available till December 2005. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**32.68**	**75%**	**24.51**
A	*State Govt. related parameters*	*18.00*	*(8.00)*	5.53		
B	*Regulatory Process*	*9.00*	*(5.00)*	(1.00)		
C	*Business Risk Analysis*	*30.00*	*(7.00)*	5.85		
D	*Financial Risk Analysis*	*20.00*	*(1.00)*	9.25		
E	*Others*	*7.00*	*(2.00)*	0.25		
F	*Progress in attaining commercial viability*	*16.00*	*(2.00)*	12.8		
	Part-II	**100.00**	**0.00**	8.00	25%	2.00
A	*Sustainability of state power sector revenue model*	*50.00*	*0.00*	8.00		
B	*Creation of competitive environment*	*50.00*	*0.00*	0.00		
	FINAL SCORE	**100.00**	**(18.75)**			**26.51**

Strengths

- Significant income from trading and UI charges, which alongwith regular tariff hikes in the last two years and steps to control theft, has led to considerable improvement in the financial position of the Board.
- While the gap between ARR and ACS has reduced from 138 paisa in 2002-03 to 23 paisa in 2004-05, Adjusted Book Losses has reduced to Rs 26.83 Crore from Rs. 93.0 Crore during the same period.
- Fully functional SERC which has been coming out with various regulations.
- Reasonable progress in terms of reforms, only Electricity Department in the North East to have corporatised, set up a functional ERC and also set up Special Courts for trial of theft related cases.

Weaknesses

- Poor track record in terms of distribution reforms.
- Only 28% of the existing consumers have been metered. DTR metering is yet to start, and energy auditing is also yet to be initiated
- Steps need to be taken in improving the computerisation of records and preparation of regular MIS.
- Generation performance is inadequate with low levels of availability and PLF

The power sector reforms in the state of Tripura have gained momentum in the past one year. The Government has incorporated the Tripura State Electricity Corporation Limited (TSECL) as a step towards corporatisation of the Board and the scheme of transfer of the Electricity Department's assets and liabilties to TSECL is expected to be finalised by the end of this financial year. The states progress in terms of other important initiatives like setting up of Special Courts for trial of theft related cases, formation of District Level Committees and setting up of district level vigilance squads have been commendable. This has sent a right signal towards seriousness of the Government to address the issue of commercial losses, including theft. Further, a one member Electricity Regulatory Commission is fully functional and has already issued its first Tariff order, which has been effective from July 1, 2005. The Commission has also issued regulations in areas of Standards of Performance, Conduct of Business, Electricity Supply Code and Tariff Procedures. The Commission has also issued draft regulations for Open Access and Grid Code.

TSECL continues to perform well in certain areas like maintaining adequate quality of the transmission system, given the inherent constraints arising from the terrain and law and order situation in some parts of the State. . However a lot needs to be achieved in the area of generation and distribution. During our discussions with the concerned officials, it was revealed that the tardy progress so far notwithstanding, the company now has started focusing on distribution reforms, and things are expected to gather momentum in the next financial year.

TSECL's generation performance has consistently improved during the last few years; however an average PLF of nearly 60 % is still unsatisfactory. This could be attributable to factors like low availability of gas and back down during off peak because of inadequate demand over the past few years. At the same time, the purchase of power from CPSUs too has shown an increase, the increased power availability has been used to step up trading activities. The corporation has earned a total income of Rs 1040 million from sale outside State, which has considerably improved the financial performance of TSECL. The score on T&D parameters have also shown some improvement with the current AT&C losses (within the state) reducing to 29.6%, an improvement of 2.1% over last year. However, significant steps are required in areas of metering and billing, with only 28% of the existing consumers been metered. The company has no accurate data as far as billing information is concerned. A lot of progress is also required in areas of computerisation of existing database and moving towards automated billing.

The company has been regular in servicing its debt servicing obligations. The increased generation from own sources, lower interest cost, coupled with additional trading income, have enabled TSECL to reduce the gap between ARR (average revenue realisation) and ACS (average cost of supply) from 64 paisa / kWh in 2003-04 to 23 paisa / kWh in 2004-05. The coverage of costs from own revenue also showed a sharp increase, from 70% in 2003-04 to 88% in 2004-05. Also the adjusted book losses have shown considerable improvement during the same period. The losses have reduced from Rs. 53.19 crore in 2003-04 to Rs. 26.83 crore in 2004-05. . The overall score assigned to TSECL is therefore higher vis-à-vis last year, though the score would have been higher but for a change in scoring criteria including award of negative marks against a number of parameters.

Sustainability of the revenue model of the power sector:

The power sector in Tripura has shown a marked improvement in performance, driven both by income from trading in power / UI charges as well as reduction in AT&C losses and regular tariff hikes. The same is evident from the table below :

(Figures in Rs million)

	2004-05	2003-04	2002-03
Revenue from sale of power	1955	1218	597
Operating costs + Interest +Depn.	2224	1750	1527
Coverage	88%	70%	39%

However, income from trading / UI charges account for close to 50% of the total income of TSECL and sustainability of the same going forward is difficult to forecast especially if trading margins are regulated. This risk is largely mitigated by the low tariff for sales outside the state, at less than Rs 2/ kWh. Also, the State has taken substantial steps in the area of power sector reforms, including setting up of a Electricity Regulatory Commission and corporatisation of the Department.

The Government of Tripura does not provide any explicit subsidy to the sector as it has been a Department of the Government. The revenue expenditure for the Department has declined from Rs 1.327 billion in 2003-04 to Rs 1.24 billion in 2005-06 as per Budgetary estimates.[7] Further Tripura is a revenue surplus state and thus sustaining this level of expenditure on the power sector should not be a problem.

Creation of a competitive environment

One of the fundamental preconditions for creating a competitive market place , unbundling the sector on functional lines and separation of trading and transmission functions has not been completed- in fact the Government has written to the GoI for allowing TSECL to be the single entity for carrying on all the functions of generation, transmission, distribution and trading in view of the fact the State is very small with an equally small network and volume of business . Further the Government of Tripura feels that the transmission system in the State is an integral part of the distribution business and issues of open access in State network and private participation by generation are not relevant in the State.

[7] Source : RBI publication on State Finances : A Study of Budgets of 2005-06

MEGHALAYA

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of 24.91 has been assigned to the power sector in Meghalaya based on the data available till April 2006. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	22.55	**75%**	**16.91**
A	*State Govt. related parameters*	*18.00*	*(8.00)*	1.5		
B	*Regulatory Process*	*9.00*	*(5.00)*	(3)		
C	*Business Risk Analysis*	*30.00*	*(7.00)*	7.25		
D	*Financial Risk Analysis*	*20.00*	*(1.00)*	8.25		
E	*Others*	*7.00*	*(2.00)*	1.75		
F	*Progress in attaining commercial viability*	*16.00*	*(2.00)*	6.80		
	Part-II	**100.00**	**0.00**	**32.00**	**25%**	**8.00**
A	*Sustainability of state power sector revenue model*	*50.00*	*0.00*	32.00		
B	*Creation of competitive environment*	*50.00*	*0.00*	0.00		
	FINAL SCORE	**100.00**	**(18.75)**			**24.91**

Strengths

- Availability of cheap hydel generation
- Significant income from trading and UI charges, leading to substantial reduction in losses and improvement in gap between ARR and ACS. The Board earned cash profit for the first time in the last 5 years.
- The improvement in financial position has also been aided by regular hike in tariffs, despite absence of a functional SERC
- Likely increase in the pace of sector reforms with the final report by the consultant having been accepted
- Computerised billing systems for a major portion of the urban consumers

Weaknesses

- Slow progress in sectoral reforms so far, important steps like setting up of Special Courts for trail of theft related cases have been initiated only recently.
- The SERC remains non functional, the Chairman who was selected is yet to join
- Sustainability of income from trading operations given that generation is entirely dependent on the level of rainfalls.

The power sector reforms in the state of Meghalaya is expected to gain momentum with Power Finance Corporation (PFC), the consultants appointed for chalking out the reform roadmap, having submitted their final recommendations in the first week of December , 2005. While the Government has incorporated the Megahlaya Power Corporation Limited (MPCL) as a step towards corporatisation of the Board, the scheme of transfer of MeSEB's assets and liabilities to the proposed MPCL will take another six months time, for which the Government has applied for extension from the Centre. The state has recently complied with other requirements of EA, 2003 like setting up of Special Courts for trial of theft related cases, formation of District Level Committees and designation of Assessing Officers. However, while a one member Electricity Regulatory Commission has been formed and a Chairman selected, the Chairman is yet to join and thus the SERC is not functional as of now. Notwithstanding the same, the Government has been regular in effecting tariff hikes on a yearly basis resulting in a significant improvement in the revenues of the MeSEB. The SEB too continues to perform well in certain areas like satisfactory manpower productivity levels in generation. However, progress achieved on distribution reforms is limited as on date, although we expect the same to proceed faster in the next financial year.

MeSEB's generation performance which was affected in the previous two years (ie 2002-03 and 2003-04) both due to low rainfall and on account of long machinery outages in some stations has recovered in 2004-05, with generation from own stations at 637 MU as against 526 MU in 2003-04. At the same time, the purchase of power from CPSUs too have shown an increase , the increased power availability has been used to step up trading activities. The MeSEB earned a total income of Rs 323 million from exports , which has considerably improved the financial performance of the board. AT&C losses have , however, not been showing a declining trend despite the State's well developed revenue collection systems, with computerised billing systems for all industrial

consumers and for consumers in the major towns of Shillong and Jowai (covering nearly 70-80% of the total demand of power within the State). We have not been provided any data to comment on the quality of T&D network, availability, outages or failure rate of distribution transformers, however we understand that the network needs to be augmented to meet the full demand of energy within the state. Towards that end, MeSEB has formed a Joint Venture with Power Grid Corporation of India Limited (PGCIL) to erect a 220 KV DC line frim Misha to Barnihat at a total cost of around Rs 1.42 billion.

MeSEB has been regular in servicing its debt servicing obligations post the restructuring of its outstanding interest and principal overdue to Rural Electrification Corporation (REC) . The increased generation from own sources, lower interest cost, coupled with additional trading income, has enabled MeSEB to reduce the gap between ARR (average revenue realisation) and ACS (average cost of supply) from 63 paisa / kWh in 2003-04 to 26 paisa / kWh in 2004-05. . The gap between ARR and ACS declined from 77 paise in 2002-03 to 63 paise in 2003-04. The coverage of costs from own revenue also showed a sharp increase, from 72% in 2003-04 to 92% in 2004-05.

The overall score assigned to MeSEB , however, does not reflect these improvements because of change in scoring criteria including award of negative marks against a number of parameters.

Sustainability of the revenue model of the power sector:

The key driver for the improved performance of MeSEB during 2004-05 has been a) increased hydel generation b) regular tariff increases despite lack of a functional SERC and c) income earned from trading in power and UI charges. While the level of hydel generation will remain a variable, the availability of hydel power will show a substantial increase once the two new units (2 X 42 MW at Lishka and 2 X 20 MW at Umtru) is completed in FY2007-08. The Board is also taking steps to enhance the transmission capability , and the financial position of the MeSEB can be expected to show a further improvement- MeSEB has earned cash profits for the first time in 2004-05

Figures in Rs Crores	2004-05	2003-04	2002-03
Revenues from sale of power	226.81	159.87	125.47
Operating Income	251.18	196.55	165.25
Expenditure	247.58	223.37	195.86
PBT	10.96	(18.31)	(24.57)

However, should there be a restriction on the allowable trading margins on exports of power, the Boards ability to further improve on its performance may be affected, even though the average realisation from exports of power, at less than Rs 2/ unit mitigate against this risk considerably. An area of concern , however, is its inability to improve upon the AT&C loss levels for sale of power within the state.

MeSEB currently does not have any dependence on subsidy support from the Megahalya Government, except for an RE subsidy of Rs 10 Crore, which is to compensate the Board for O&M works related to Rural Electrification This amount is insignificant in relation to the total revenue receipts of the Meghalaya Govt. which is estimated at Rs 1721 Crore for 2004-05. Also, Meghalya is a revenue surplus state for the last three years. Further, despite lack of functional SERC, the Government has been regular in effecting tariff increase across all consumer categories, which can be considered as positive and indicative of the Government's intentions. However, the extent and the speed with which the Government accepts the PFC recommendations for restructuring of the sector , including corporatisation of the Board and approve the Financial Restructuring Plan , would have a critical impact on the sectors ability to attain commercial viability on a stand-alone basis.

Creation of a competitive market-place

One of the fundamental preconditions for creating a competitive market place , unbundling the sector on functional lines and separation of trading and transmission functions has not yet been completed. While the State is yet to unbundle the SEB on functional lines; it is expected to get completed shortly as the consultant appointed by the Board viz. PWC has already submitted its report on the restructuring of the State power sector utilities. Also, as the unbundling is yet to be completed, competitive bidding for the procurement of power is yet to materialize in the State.

The SERC is not yet functional in Meghalya, hence issue like introduction of open-access, cross subsidy surcharge and wheeling charges are not relevant. We are given to understand that there is no cess applicable on captive power generation

UTTAR PRADESH

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of 24.38 has been assigned to the power sector in UP based on the data available till April 2006. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**24.51**	**75%**	**18.38**
A	*State Govt. related parameters*	*18.00*	*(8.00)*	7.60		
B	*Regulatory Process*	*9.00*	*(5.00)*	3.00		
C	*Business Risk Analysis*	*30.00*	*(7.00)*	3.65		
D	*Financial Risk Analysis*	*20.00*	*(1.00)*	3.88		
E	*Others*	*7.00*	*(2.00)*	3.38		
F	*Progress in attaining commercial viability*	*16.00*	*(2.00)*	3.00		
	Part-II	**100.00**	**0.00**	**24.00**	**25%**	**6.00**
A	*Sustainability of state power sector revenue model*	*50.00*	*0.00*	0.00		
B	*Creation of competitive environment*	*50.00*	*0.00*	24.00		
	FINAL SCORE	**100.00**	**(18.75)**			**24.38**

Strengths

- Satisfactory progress in terms of reforms and restructuring of the sector, which includes unbundling on functional lines and payment of subsidy as required in terms of the Financial Restructuring Plans. The GoUP has also been providing funding support to the utilities in the form of equity infusion which has resulted in positive networth for the utilities, in spite of high loss levels.
- Effective functioning of the Uttar Pradesh Electricity Regulatory Commission
- Implementation/steady progress in key reform measures such as special courts for anti-theft measures, unbundling of utilities, setting up of consumer grievance forums etc.
- Progress in some distribution measures such as computerised assessment and billing in key cities and satisfactory progress in metering at 11kV levels.

Weaknesses

- Continuing weak financial position, with coverage of costs through revenues at less than 70%, AT&C losses of around 40% and gap between ARR and ACS of over 80 paisa/ kWh
- Huge unmetered consumption and billings on flat rate basis.
- Receivables position is showing further deterioration
- Poor PLF in UPRVUNL's generating facilities
- While Adjusted Book Losses had shown a reduction since 2001-02, they remain high in absolute terms. Inability to meet operational efficiency improvements as prescribed by the Commission is one of the contributory factors. Crucial distribution reform measures like energy audit are yet to show any significant progress

Government of Uttar Pradesh (GoUP) continues to show a strong commitment towards restructuring the sector, which has been manifest in the financial restructuring of the power sector utilities involving a write-off of liabilities to the tune of Rs 19,000 Crores, continued transitory support to the utilities as per the FRP, assuming the entire pension and gratuity liabilities of the erstwhile UPSEB as on January 14,2000 and securitisation of dues to CPSUs. There has also been regular equity infusion to the utilities, as a result , despite losses, the net worth of the utilities remain positive. While unbundling of distribution activities was completed in FY 2003-04, the trading function continues to be carried out by UPPCL. The state government (and the UPERC) have also made satisfactory progress in implementing certain key reform measures required in term of the EA, 2003 such as setting up district level forums, designating assessing officers and setting up of special courts. However, the collections from anti-theft measures continues to remain poor in relation to the overall ATC losses. The state is also lagging behind in household electrification and addition to generation capacity in the state sector.

The functioning of the UPERC continues to be one of the strong positives of the UP Power Sector. However, the scoring on the regulatory process has been constrained by the fact that there were delays in filing of ARRs (mainly attributed to non-finalisation of subsidy amount from GoUP and incomplete information) which have resulted in the

tariff order for FY 2005-06 yet to be issued. In our opinion, UPERC's tariff philosophy is sound with realistic targets for efficiency improvement and gradual move towards eliminating cross-subsidy such that the viability of the licensee is not threatened, nor are consumers subject to sudden tariff-shocks. The UPERC's tariff orders over the years have addressed issues such as rationalisation of tariff structure and use of merit order dispatch principal to reduce power purchase costs. The UPERC has also made progress in implementing key provisions of the EA, 2003. The UPERC has vide the UPERC (Consumer Grievance Redressal Forum & Electricity Ombudsman) Regulations, 2003 provided for setting up of district level forums for redresssal of grievances of consumers and for electricity ombudsman. The state has already set up consumer grievance forum and ombudsmen has been appointed. The UPERC has also issued a electricity supply code, which among other things defines performance standards for licensees, issued the state grid code and also finalised guidelines for open access in distribution. The UPERC has, apart from concentrating on tariff issues, also focused on long-term reforms issues such as efficiency improvement, improvement in quality of services and greater transparency. Towards this end it has issued several directives to the state utilities vide its tariff orders and other rulings, although the utilities compliance with these have been unsatisfactory.

There has been no significant change as far as the generation parameters are concerned with the PLF and availability factor continuing to remain below average. UPPCL also continues to suffer from high T&D losses and poor collection efficiency which has resulted in ATC loss of around 40%- the ATC loss has in fact worsened in FY 2005. According to the UPERC tariff orders, the problems are compounded by huge unmetered consumption, large billings on assessment basis, limited attempts at recovering arrears and inadequate investment in metering, system improvement and capacity augmentation. However, some progress has been made in metering and energy accounting at 11 KV feeders and in automating metering and billing in some key cities.

The state sector entities are scoring around 3.88 marks on 20 in the Financial Parameters. The scoring is constrained because of the entities' weak financial performance with coverage of costs through revenues at less than 70%, continuing defaults to institutions and worsening receivables position. Perhaps the only positive is that the pension and gratuity liabilities are fully funded.

UPPCL's overall MIS needs improvement. The Commission, in its tariff orders has expressed itself on the shortcomings in UPPCL's MIS and information retrieval systems, as also its inability to comply with the Commissions directive on several areas such as metering and customer database management. On the positive side however the state entities have made some progress in computerising metering and billing in some key cities.

UPPCL's progress towards achieving commercial viability is extremely limited. The deficit between ARR and ACS at 89 paise/ kWh in 2004-05 represented only a marginal improvement over the previous years. In absolute terms, it remains unsustainably high. Similarly, the ratio of ARR/ACS ratio too has shown only a very moderate improvement to 63% in 2004-05 as against around 60% in 2002-04. Adjusted Book Losses have shown a decrease since FY 2002, although they still remain very high in absolute terms.

Sustainability of the revenue model of the power sector:

The state of UP does not appear to have a sustainable revenue model. The state level entities are in fact reporting substantial losses even on accrual basis – during FY 2005 the state levels entities' combined loss at PAT level was around Rs. 2900 crore whereas in the same period they had received over Rs. 1000 crore subsidy income. Financial parameters such as adjusted book losses (Rs. 3800 crore in FY 2005) , gap between ARR and ACS gap (89 paise) and cost coverage through revenue (68%) for the combined UP entities has been very poor and in fact represented some deterioration over FY 2004. This would be clear from the following table :

	2004-05	2003-04	2002-03
ATC loss %	43.7%	38.3%	38.3%
Cost Coverage %	68%	81%	
ARR-ACS in Rs/unit	-0.89	-0.62	-0.82
ARR/ACS in Rs/unit	63%	71%	65%
Adjusted Book Loss (ABL)	-3846	-2554	-3480

While results or trends for FY 2006 are not available, ICRA expects the losses to in fact increase during FY 2006. This is because of increase in input costs, especially fuel and non-finalisation of tariff orders for FY 2006. Going forward, the states ability to reduce losses would depend upon a variety of factors like ability to meet regulatory targets w.r.t operational efficiency parameters, timely tariff increases to offset the increase in power purchase costs and substantial reduction in AT&C losses, which the discoms have been unable to demonstrate in the past.

Creation of a competitive market-place

While the State has separated the generation, transmission and distribution functions, the trading and transmission functions continue to remain vested in the same company viz. UPPCL. This may act as a deterrent against competition. However UP has started the process of competitive bidding for the procurement of power in the State. GoUP has designated UPRVUNL as its nodal agency for the purpose and UPRVUNL has initiated competitive bidding for the Anpara 'C' thermal power project.

UPERC has come out with regulations on allowing open access in transmission and distribution of power. As per the time table, open access for smaller customers with connected load above 1 MW will be completed in a phased manner by April 1, 2008. The

UPERC has also stated its intention to allow open access to consumers below 1 MW depending on the feasibility of doing the same. Open access for customers has already been granted to three companies viz. Balrampur Chini Mills, Nodia Power Company Limited and Kanoria Chemicals. Companies availing of open access shall pay wheeling charges, Cross Subsidy Surcharge (CSS) and an additional surcharge payable to the discom for meeting its fixed costs. As per UPERC, CSS is to computed so as to meet the current level of cross –subsidy for that category of customer, however the exact amount will be notified only later by way of a separate tariff order. CSS would however not be payable by the captive consumers. UPERC has also come out with a policy on tariff determination for captive power generators and non-conventional power producers who intend to sell power to distribution licensees. As far as electricity duty is concerned, there is no ED on generation but only for distribution and works out to 6% of power sales. UPPCL officials have informed us that this is non-discriminatory. UPPCL has also started the process of implementing intra state ABT and UPPCL expects to complete the implementation within FY 2007.

HARYANA

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

An overall score of 23.75 has been assigned to the power sector in Haryana. The distribution of marks against the various parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**16.33**	**75%**	**12.25**
A	*State Govt related parameters*	*18.00*	*(8.00)*	*2.00*		
B	*Regulatory Process*	*9.00*	*(5.00)*	*2.50*		
C	*Business Risk Analysis*	*30.00*	*(7.00)*	*6.95*		
D	*Financial Risk Analysis*	*20.00*	*(1.00)*	*4.13*		
E	*Others*	*7.00*	*(2.00)*	*2.75*		
F	*Progress in attaining commercial viability*	*16.00*	*(2.00)*	*(2.00)*		
	Part-II	**100.00**	**0.00**	**46.00**	**25%**	**11.50**
A	*Sustainability of state power sector revenue model*	*50.00*	*0.00*	*24.00*		
B	*Creation of competitive environment*	*50.00*	*0.00*	*22.00*		
	FINAL SCORE	**100.00**	**(18.75)**			**23.75**

Strengths

- Thrust on addition of generation capacity within the state
- High level of household electrification at around 95 per cent
- Low level of power and fuel purchase creditors
- Pension liabilities have been quantified and trust has been created for funding the same

Weaknesses

- High level of subsidies putting strain on the state government finances
- High level of unmetered agricultural consumers and zero distribution transformer (DTR) metering, leading to a weak energy audit system
- High aggregate technical and commercial losses (AT&C losses) at over 43 per cent in 2004-05
- Low revenue cost coverage of 63 per cent in 2004-05 and an increasing trend in adjusted book losses leading to greater reliance on subsidies

- High level of receivables at 215 days of sales in 2004-05
- High manpower strength, both at the generation and T&D levels

The State Government

Key positives

Govt. of Haryana is making efforts to expand the generation capacity within the state. It has added 500 MW during 2004-05 and plans to add 600 MW in the next three years. It has unbundled the trading and transmission functions. HPGCL, the generating company, has been handling the trading function separately since June'05. The level of household electrification in the state is high at 95 per cent.

Areas of Improvement

The power subsidy for the state is leading to very high pressure on the state government finances. In 2004-05, the power subsidy was Rs. 11000 million against a total revenue deficit of Rs. 2258 million. Further, there have been delays in the implementation of various targets of the Electricity Act 2003 such as constitution and functioning of the Special Courts for theft related cases, setting up of separate fund for Regulatory Commission and constitution of district level committees.

Regulatory Process

Key positives

HERC has come out with regulations as per the Electricity Act 2003 and has issued directives to the distribution companies for improving functioning within the state in terms of operational efficiency, costs, and quality of services.

Areas of Improvement

Timeliness of the tariff orders as well as filing of the petitions by the Discoms needs to be improved. Efforts must be taken for reducing cross-subsidy element and introduction of Time of Day tariff. Further, utilities must be more diligent in complying with the directives issued by HERC. HERC did not approve of the Ombudsman appointed in 2004-05 and a new Ombudsman needs to be appointed. Adoption of multi-year framework for determining tariff is yet to be done, which is a requirement as per the National Tariff Policy.

Operational Parameters (Generation, Transmission and Distribution)

Key positives

100 per cent metering of all the feeders upto 11 KV has been completed. Availability of transmission network is also high at above 99 per cent in 2004-05. The operational parameters with respect to the generating plants also show an improving trend with the Plant Load Factor (PLF) increasing from 57 per cent in 2001-02 to 70 per cent in 2004-05 and the availability factor increasing from 70 per cent in 2001 to 80 per cent in 2004-05.

Areas of Improvement

The AT&C Losses continue to be at high levels (43 per cent for the entire state in 2004-05) and there is a need to improve metering as the units billed on metered basis form only about 44 per cent (in 2004-05) of the total power input into the state. This is attributed to the high level of agricultural consumers in the state. The Revenue cost coverage has declined from 73 per cent in 2003-04 to 63 per cent in 2004-05. Though there has been an improvement in manpower level per MW generated over previous year, it is very high compared with the benchmark.

There is a need to improve the distribution infrastructure as the distribution transformer failure rates are at a high level of 14 per cent (in 2004-05) and there are large-scale interruptions and outages along with load shedding, especially in the rural areas. The distribution companies need to take up complete distribution transformer metering, consumer indexing, and HT remote metering.

Financial Risk Analysis

Key positives

The creditors of purchase of power and fuel are at a low level of 18 days (in 2004-05) of the total fuel and power purchases. In addition, two trusts, which are being adequately funded, take care of the servicing of the pension liabilities.

Areas of Improvement

The cash loss levels for Discoms and Transcos have increased from Rs. 13.23 billion (2001-02) to Rs. 28.52 billion (2004-05). The revenue cost coverage remains low at 63 per cent. Further, interest payments are overdue to the state government as well as commercial banks.

The receivable levels for the two Discoms have increased to 215 days of annual sales in 2003-04 from 142 days in 2001-02. A scheme has been introduced in the state for the waiver of agriculture and rural domestic receivables amounting to Rs. 16.60 billion, out of which Rs. 7.17 billion will be borne by the Discoms and the balance by the Govt. of Haryana.

Sustainability of state power sector revenue model

The power sector in Haryana is significantly dependent on state subsidies for coverage of operating expenses. The distribution utilities in the state are able to collect only around 70% of the cash expenses through revenue from customers while almost 22% of the revenue is contributed by subsidies. Haryana is a largely agrarian economy with high agricultural consumption. Govt. of Haryana is providing highly subsidsed power to agricultural consumers, which is contributing to the rising levels of requirement for subsidies. Though, the finances of Government of Haryana (GoH) are marked by very high self-reliance to fund total revenue expenditure (85% in 2004-05) with a strong state's own tax revenue base and a robust economy base with annual growth of over 14% in state's revenue receipts, such high levels of subsidies put a significant strain on the finances of the state government. In fact, in case the power sectors subsidies in 2004-05 were lower by just 20%, Haryana would have generated a revenue surplus.

Creation of competitive environment

The Haryana State Electricity Board (HSEB) was one of the first SEBs to be unbundled on functional lines into a generation company, a transmission company and two distribution companies. Subsequently, the trading function has been separated out from transmission. The generation company (HPGCL) is handling the trading function in the state from June'05. In order to introduce competition, HERC has notified the 'Open Access' regulations for the state, which would allow large consumers the choice of power supplier starting from October 2006. However, the regulator is yet to frame policy regarding levying of various charges under the said policy, in whose absence no clarity regarding the viability of the open access policy can be ascertained.

MADHYA PRADESH

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of 21.97 has been assigned to the power sector in Madhya Pradesh. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weight age	Final Score
	Part-I	**100.00**	**(25.00)**	**18.29**	**75%**	**13.72**
A	State Govt related parameters	18.00	(8.00)	5.60		
B	Regulatory Process	9.00	(5.00)	6.00		
C	Business Risk Analysis	30.00	(7.00)	6.19		
D	Financial Risk Analysis	20.00	(1.00)	0.25		
E	Others	7.00	(2.00)	1.25		
F	Progress in attaining commercial viability	16.00	(2.00)	(1.00)		
	Part-II	**100.00**	**0.00**	**33.00**	**25%**	**8.25**
A	Sustainability of state power sector revenue model	50.00	0.00	18.00		
B	Creation of competitive environment	50.00	0.00	15.00		
	FINAL SCORE	**100.00**	**(18.75)**			**21.97**

Strengths

- Sound operating performance of generating plants in the state sector.
- Established regulatory process in the state – four tariff orders passed by the Madhya Pradesh Electricity Regulatory Commission
- Steps taken by the Regulatory Commission to increase the efficiency of the State utilities and reduce cross-subsidy levels
- Unbundling along functional lines; including separation of trading function completed

Weaknesses

- Defaults by MPSEB and its successor entities on state government and external loans
- Low levels of household electrification in the state at about 43 per cent
- Financial statements for 2004-05 not yet audited due to ongoing dispute with Chattisgarh State Electricity Board
- Revenue-cost coverage has declined to 80 per cent in 2004-05 from 83 per cent in 2003-04.
- High dependence on state government for subsidies; estimated to increase in future
- AT&C losses are very high at more than 50 per cent in 2004-05

➲ High distribution transformer failure rate at 23 per cent in 2004-05

The State Government

Key Positives

The Government of Madhya Pradesh (GoMP) has implemented most of the aspects required under the Electricity Act. These include setting up of special courts, nomination of assessing officers in the Distribution Companies (Discoms) and the constitution of District Level Committees. GoMP has unbundled the sector along functional lines and has also separated the trading function from transmission. MPERC has also been functioning with a full complement of members since May 2003. State-owned generating capacity has grown by 18 per cent from the base year of 2002.

GoMP has formulated a Financial Restructuring Plan for restructuring the erstwhile MPEB, which includes taking over of various liabilities due to CPSUs, REC and various banks and a budgetary provision of about Rs. 3000 million in 2005-06. GoMP also infused Rs. 15034 million by way of equity into MPSEB.

Areas of Improvement

Scope exists to improve cash collections, metering, and other anti-theft measures. A scale- up in the level of household electrification and compliance with MPERC directives would also lead to a higher score on this parameter.

Although GoMP has notified the provisional opening balance sheets and cash flow mechanism to be followed by the generation, transmission, distribution, and trading companies, the companies have not finalised their balance sheets, as GoMP has reserved the right to modify values in the opening balance sheets.

Regulatory Process

Key Positives

The regulatory process is well established in the state of Madhya Pradesh with four tariff orders having been issued in 2000-01, 2001-02, 2002-03, and 2004-05. MPERC has issued performance standards for transmission and distribution licensees as per the provisions of Electricity Act 2003. MPERC has also ensured the appointment of an Ombudsman, finalised Open Access Guidelines, and issued State Grid Code Specifications.

Areas of Improvement

Timeliness of tariff orders is certainly an area for improvement: the most recent tariff order for 2005-06 was passed on June 29, 2005 due to the delay in filing of the ARR by the integrated entity, MPSEB. As a result, the benefit of the revised tariffs was not available to sector for the full financial year. GoMP is yet to finalise the opening balance sheets of the new generating, transmission, distribution, and trading entities, which also leads to delays in filing the ARRs. The utilities have been able to partially comply with the regulatory directives in past tariff orders.

Operational Parameters (Generation, Transmission, and Distribution)

Key Positives
The performance of MP's generating plants continues to be an area of strength. Availability factors have consistently been high, auxiliary power consumption is marginally better than normative levels, and PLF has been at an average level of 76.1 per cent over the past three years.

Areas of Improvement
Manpower levels in thermal generation, at 2.52 employees per MW, are higher than the benchmark of 0.96 employees per MW. DTR failure rate of nearly 23 per cent in 2004-05 is high. AT&C losses of more than 50 per cent are very high.

Finances

Key Positives
The actuarial valuation of unfunded pension liabilities is complete and GoMP has directed MPSEB to operationalise the Terminal Benefits Trust.

Areas of Improvement
Finalisation of audited financial statements for 2004-05 is still pending, due to the delay in the settlement of the dispute with CSEB on allocation of past liabilities. Debt servicing has not been timely and there have been defaults on both State Government and Commercial bank loans.

Sustainability of state power sector revenue model

MPSEB is dependent on revenue subsidies for Rs. 7943 million (15.1 per cent) of its revenues from the sale of power (excluding subsidies) in 2004-05. The contribution of revenue subsidies to total revenues has remained around 13 per cent from 2001-02 to 2004-05. This dependence is expected to continue as GoMP is expected to continue to subsidise MPSEB's agricultural consumers. Madhya Pradesh reported a surplus of Rs. 17169 million in 2004-05, which is primarily due to the conversion of a grant of Rs. 27494 million given to MPSEB in 2003-04 into an interest free loan. Based on revised estimates for GoMP will report a revenue deficit of Rs. 255 million in 2005-06. The additional subsidy burden could be a constraint on the state's finances.

Creation of competitive environment

MPERC has issued regulations on open access that allowed open access for users requiring 10 MW or from June 2005. The introduction of open access has been phased such that user requiring 1 MW or above would be eligible for open access from October 2007. Open access for consumers with demand less than 1 MW only after conditions are right for this category. The state electricity utility has been unbundled into

GoMP' captive power policy seems to be restrictive as it is binding on the consumer to draw at least 50% of electricity from MPSEB and restricts total capacity of the captive plant to 1.5 times of contracted demand. The policy does not allow for the wheeling /sale of power to a third party. Any exemption from paying electricity duty shall be revoked if the consumer sets up his own captive power plant. Power purchases by MPSEB shall not be at rates higher than MPSEB's average cost of generation, which was Rs. 1.43 per unit in 2005-06. An energy development cess shall be levied at the rate of 20 paisa per unit generated by the captive power plant.

ORISSA

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

An overall score of 21.25 has been assigned to the power sector in Orissa. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**15.00**	**75%**	**11.25**
A	State Govt related parameters	*18.00*	*(8.00)*	*3.25*		
B	Regulatory Process	*9.00*	*(5.00)*	*5.00*		
C	Business Risk Analysis	*30.00*	*(7.00)*	*6.00*		
D	Financial Risk Analysis	*20.00*	*(1.00)*	*0.00*		
E	Others	*7.00*	*(2.00)*	*0.75*		
F	Progress in attaining commercial viability	*16.00*	*(2.00)*	*0.00*		
	Part-II	**100.00**	**0.00**	**40.00**	**25%**	**10.00**
A	Sustainability of state power sector revenue model	*50.00*	*0.00*	*16.00*		
B	Creation of competitive environment	*50.00*	*0.00*	*24.00*		
	FINAL SCORE	**100.00**	**(18.75)**			**21.25**

Strengths

- Pioneer in power sector reforms, first one to privatize distribution
- Well evolved regulatory process
- Multi year tariff policy in place
- High metered sales at 96 per cent of the total units input in the system

Weaknesses

- High aggregate technical and commercial losses in the sector
- Energy audits yet to be adopted on a regular basis
- Significant accumulated financial losses in the sector
- Lack of financial statements

The State Government

Key Positives

Orissa is the first state in the country, which undertook unbundling of the integrated SEB (OSEB) into Generation, Transmission and Distribution companies. The distribution companies were subsequently privatized. The Orissa Electricity Reform Act 1995 was enacted with an aim to restore viability to the sector, attract private sector participation

to bring in necessary investment in the sector. However the initial premise and decisions resulted in deterioration of the financial health of the sector. The State Government subsequently appointed a high-powered Committee also known as 'Kanungo Committee' and accepted its recommendations in January 2003. Further GoO along with the Regulatory Commission has also formulated a Business Plan for turning around the distribution companies in the sector.

The State of Orissa is well endowed in natural resources and has good hydel potential as well as strong mineral base including that of coal, which supports its thermal plants.

Areas of Improvement
The financial health of the power sector in Orissa continues to be an area of concern. The urgent need to improve the operational performance in terms of MIS, metering, energy audit, collection efficiency and reduction of T&D losses at the distribution level needs no mention. Logical conclusion of financial restructuring being undertaken is a must for restoring credibility to the sector.

Regulatory process

Key Positives
Being the first Electricity Regulatory Commission to be set up, in the country, Orissa Electricity Regulatory Commission (OERC) has played a pioneering role in introduction of regulation of the energy sector in the country. It has taken active steps to bring in improvements in the sector. The latest tariff order passed by the Commission pertains to FY2005-06. The tariff order has been issued after detailed discussions with all the stakeholders. OERC has also put in place the Multi Year Tariff policy so as to bring in an element of certainty in tariff setting process.

OERC's recommendations such as introducing merit order principles for the purchase of power, appointment of Ombudsman have been implemented. The Commission has also issued regulations mandated under the Electricity Act, 2003, including those regarding Standards of Performance for distribution licensees, open access and the State Electricity Grid Code.

OERC, having been in existence for the longest time amongst all Regulatory Commission's, the regulatory approach to tariff setting is well evolved.

Areas of Improvement
Timely filing of ARR and adherence to the regulatory directives will help the utilities to recover the costs for entire year. Further reduction in cross-subsidies will help retention of high value consumers. These measures will be in line with the reform spirit.

Operational performance

Key Positives
The operational performance of thermal plants of OPGC is good, with plant load factors (PLFs) for the last three years averaging around 80 per cent. The auxiliary consumption at the generating stations is marginally higher than the normative levels. The availability of the transmission lines is high at 99 per cent. The manpower employed in hydel generation is as per the benchmark levels.

Areas of Improvement
Metering levels have to improve at the consumer end for a better estimation of energy flows. Further, energy audits need to be completed for the entire system, and not selectively, as is being done at present. MIS, customer mapping, collection efficiency and strict control on theft and pilferage are some of the areas where improvement is a must. The manpower employed per MW in the thermal stations is higher (1.42) than the prescribed benchmark of 0.96.

Finances

Key Positives
Acceptance of Kanungo Committee report in January 2003 was the major positive for the sector. Strong earnings under ABT have helped GRIDCO, however its consistency will be an issue.

Areas of Improvement
Lack of audited financial statements for a few utilities in the Orissa power sector is an area of concern. The financial health of the sector needs to improve.

Sustainability of state power sector revenue model

The power distribution sector in Orissa is divided in four distribution companies. There are significant variations in the performance between these companies both financial and operational. Recently on February 28, 2005 GoO along with OERC has approved the Business Plan for the turnaround of the distribution companies.

The finances of GoO are marked by increasing dependence on Grants from the centre, which contributes 20% expenditure funding in 2004-05. Contribution of non-tax revenue from own sources towards expenditure funding has come down to 7.5% in 2004-05. At the same time, GoO's Revenue deficit as a percentage to Revenue receipts has been declining from 40% in 2001-02 to 19% in 2004-05; however the same as increased as compared to the previous year's 15%. Similarly, the Gross Fiscal Deficit has been consistently high. In case the ongoing dispute with the licensees is not resolved amicably, then GoO will have to increasingly fund the capital expenditure requirements in the power sector.

Creation of competitive environment

The SERC in the state of Orissa is the first in the country and over the period has brought in requisite regulations that can enable the creation of a competitive environment in the state. Orissa power sector comprises a transmission company, a trading company, two-generation companies and four distribution companies. The state was one of the first to unbundle its power sector followed by privatisation. In order to usher in competition and comply with the requirements of the Electricity Act 2003, OERC has already notified the 'Open Access Policy' for the state whereby consumers having a contracted demand above 5 MW and connected at 33 KV level are already able to choose their power supplier. However, direct open access purchases from a generating company has been delayed till April 2008.

SIKKIM

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of 14.03 has been assigned to the power sector in Sikkim based on the data available till April 2006. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**16.04**	**75%**	**12.03**
A	*State Govt. related parameters*	*18.00*	*(8.00)*	*0.83*		
B	*Regulatory Process*	*9.00*	*(5.00)*	*(5.00)*		
C	*Business Risk Analysis*	*30.00*	*(7.00)*	*2.81*		
D	*Financial Risk Analysis*	*20.00*	*(1.00)*	*7.75*		
E	*Others*	*7.00*	*(2.00)*	*0.25*		
F	*Progress in attaining commercial viability*	*16.00*	*(2.00)*	*9.40*		
	Part-II	**100.00**	**0.00**	**8.00**	**25%**	**2**
A	*Sustainability of state power sector revenue model*	*50.00*	*0.00*	*8.00*		
B	*Creation of competitive environment*	*50.00*	*0.00*	*0.00*		
						14.03
	FINAL SCORE	**100.00**	**(18.75)**			*14.03*

Strengths:

- Improving coverage of costs due to income earned from trading operations
- Satisfactory track record on debt servicing despite cash losses in the department
- Availability of cheap hydel power and vast potential for new hydel stations. Due to availability of cheap power and trading income, the gap between ARR and ACS remains modest at 26 paisa and the state has scored well in the parameter 'Progress towards Commercial Viability'
- State to benefit from 12% 'free share' of power from the new hydel stations being set-up by NHPC and IPPs. Once the projects are commissioned, the State will have the scope to further improve on its trading operations.

Weaknesses:

- Slow progress of power sector reforms
- Very high ATC loss (38% in 2004-05) due to rampant theft of power and overdrawal of power in unmetered connections
- Due to subsidised tariff for most segments and high losses, cash coverage of costs, if trading income is excluded, remains low.
- As a result, the financial health of the department is weak .
- Very high manpower levels
- Limited progress in distribution reforms. Universal energy audit is also yet to commence, though the Department has started energy accounting at all 11 kV feeders.

There has been limited progress in power sector reforms in Sikkim, which has resulted in the department scoring low on the parameters relating to the State Government and SERC. Most of the targets laid out in the Electricity Act, 2003 have not been complied with. Implementation of anti-theft measures has been slack. There has been only limited progress in the restructuring of the department. The Government had earlier appointed ASCI, Hyderabad as a consultant to advise it on restructuring of the department and initiation of other power sector reforms. The consultant has since submitted a final report which advocates corporatisation of the department to be preceded by financial restructuring. The existing assets and liabilities of the department are to be taken over by Sikkim Power Development Corporation Ltd (SPDCL), a company already in existence. The Government plans to complete this process by March 2006.

There is no SERC in the State as of now. Hence a negative score has been assigned against SERC related parameters. The Government has appointed a committee to select the members of the commission, who are expected to be in place by March 2006.

The State has awarded a few hydel projects to IPPs from which it would get 12% free share. This is in addition to NHPC project which is expected to commence generation in March 2007. Consequently, the surplus power scenario is expected to be further

strengthened over the medium to long term, and the State can be expected to capitalise on the same through trading.

The scoring assigned to the generation parameters continue to be low on account of the fact that generation is affected by irregular flow of water during both peak and off peak seasons, average auxiliary consumption level , high manpower levels and lack of data regarding availability factor for the generating stations. Similarly, scoring against T&D parameters also continues to be constrained by adverse trend in distribution transformer failure rate, high ATC losses and adverse manpower productivity parameters. Interface metering project has been completed and DTR metering is underway, consequent to which universal energy audit is expected to be undertaken. On the positive side, consumer metering has been completed upto 92%.

The department is scoring low on all financial parameters on account of unavailability of proforma accounts, cash losses, low coverage of costs through revenues and unfunded pension and gratuity liabilities. The department however has scored well on progress in attaining commercial viability. ARR/ACS coverage has improved significantly (86% in 2004-05 vs 39% in 2002-03), and gap between ARR and ACS has also narrowed to 26 paisa. essentially due to trading income. Inspite of the cash losses generated by the department, the Government has honoured all the debt service commitments. Further improvement in financial performance is critically dependent on further tariff rationalisation, reduction in T&D losses and downsizing of manpower, apart from sustenance of trading income.

Overall MIS continues to be below average. The department does not capture many critical data required for monitoring the operations in a systematic manner. However, it is in the process of putting in place an IT network which should improve the quality of MIS over the short to medium term.

Sustainability of the revenue model of the power sector:

The Department has been able to effect a substantial improvement in its financial position largely on account of availability of cheap hydel power (including share of free power) and income earned from trading operations. This is evident from the table below:

Rs/Million

	2004-05	2003-04	2002-03
Revenue from sale of power	885.2	603.3	133.1
Operating Cost +Interest Cost	1025.1	815.3	338.7
Coverage	86%	74%	39%

While there is unlikely to be any lack of trading opportunities given the substantial power deficit situation in most parts of the country, the Department may remain vulnerable to any likely change in trading margins. At the same time, with a number of hydel projects slated to be commissioned in the next few years from which the State will be entitled to its allocated share in addition to 12% free power, trading opportunities are likely to increase even more. Since the Electricity Department is not corporatised the Government makes plan and non-plan allocation to meet the revenue and capital expenditure of the Department. The Government's revenue expenditure on power, which had gone up from Rs 360 million in 2003-04 to Rs 934.8 million in 2004-05 is projected to decline to Rs 385.8 million in 2005-06 as per Budgetary estimates.[8] Also Sikkim has been a revenue surplus state for the last three years, and sustaining the Governments allocation on the power sector should not be a problem.

Creation of a competitive market-place

Given the slow pace of power sector reforms in the state, and lack of a regulatory commission, it is unlikely that a competitive environment would be created in the State in the forseeable future. However, Sikkim allows captive generation of power by the consumers on which no levy is charged by the department.

[8] Source : RBI publication on State Finances : A Study of Budgets of 2005-06

MIZORAM

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of 7.13 has been assigned to the power sector in Mizoram based on the data available till December 2005. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**9.50**	**75%**	**7.13**
A	*State Govt related parameters*	*18.00*	*(8.00)*	1.00		
B	*Regulatory Process*	*9.00*	*(5.00)*	(5.00)		
C	*Business Risk Analysis*	*30.00*	*(7.00)*	9.50		
D	*Financial Risk Analysis*	*20.00*	*(1.00)*	3.00		
E	*Others*	*7.00*	*(2.00)*	0.00		
F	*Progress in attaining commercial viability*	*16.00*	*(2.00)*	1.00		
	Part-II	**100.00**	**0.00**	**0.00**	**25%**	**0.00**
A	*Sustainability of state power sector revenue model*	*50.00*	*0.00*	0.00		0.00
B	*Creation of competitive environment*	*50.00*	*0.00*	0.00		0.00
	FINAL SCORE	**100.00**	**(18.75**			**7.13**

Although the financial position has improved with respect to the last year the state has yet to make any progress in the area of reforms. Some of the strengths and weakness of the power sector in the state are as follows:

Strengths

- Higher inter-state sales and improved collections has led to reduced losses as well as gap between ARR and ACS in FY05 compared to the previous year
- AT & C losses, too, have come down to 38.1% from a high of 58.5% last year mainly because of improved collection efficiency and increased level of metering.
- Energy accounting has been initiated in all the circles of the State. This activity is carried out on a regular basis.

Weaknesses

- Virtually no progress in terms of reforms , restructuring or corporatisation of the Department
- Similarly, Electricity Regulatory commission, one of the most important and critical
- milestone in the reform process, is yet to be formed
- Absence of a commercial orientation in the way the Department is structured and functions.
- Inadequate cost coverage, despite the improvement compared to last two years.
- Despite improvements, the gap between ARR and ACS remain unsustainably high at over 123 paisa per unit sold. Revenue from power covers barely 55% of the total costs of the Department.
- Default in debt servicing to institutions like PFC and REC.

The score assigned to the Power Department of Mizoram continues to reflect the unsatisfactory progress in terms of reforms in the sector. The Mizoram Government signed the Memorandum of Agreement (MoA) with the Ministry of Power (MoP), Government of India on 18 th July 2002. As a step further in this direction the state government has already appointed ASCII, Hyderabad to detail out the reform process in the state. The state has taken steps in areas of feeder level metering, consumer metering and energy audit, however a lot is to be achieved for most of the targets laid down in the Electricity Act 2003 in terms of setting up Special Courts, District level Committees and setting up of SERC.

The installed capacity in the state has increased from 33.25 MW in 2003-04 to 46.59 MW in 2004-05, mainly on account of commissioning of an HFO based plant at Bairabi. However on account of increased fuel prices the state has not fully utilised its thermal capacity. In fact the total state generation has reduced from 10.6 MU in 2003-04 to 6.6 MU in 2004-05.

Although there has been improvements on account of consumer metering with 99% of the consumers metered, very little has been achieved in terms of metering at the DT level.

There is a pressing need for computerization and the Department needs to strengthen its finance and commercial functions, including book keeping, billing, metering and collections.

Because of higher inter-state sales as well as improved collections, the gap between ACS and ARR has reduced from a high of 223 paisa/kWh last year to 123 paisa/kWh, correspondingly, adjusted book loss too has reduced from Rs. 64.94 crore in FY 04 to Rs. 47.50 crore in FY 05. However, in absolute terms, it continues to remain high and the Department still has a lot of ground to cover for attaining commercial viability.

However, ICRA acknowledges the constraints, which have been impacting on the performance of the Power Department. Some of the main constraints are as follows:

- High dependence on purchased power
- Low industrial consumer profile which means limited scope for cross subsidization
- Weak Transmission and Distribution network (because of inadequate investments)
- Difficulties in maintenance,
- Difficulties in metering, billing owing to nature of the terrain etc

Sustainability of the revenue model of the power sector:

Despite the improvement in financial position on account of both trading operations as well as increase in cash collections and corresponding decline in AT&C losses, the Departments coverage of costs from own revenues is still only around 50%.

	2004-05	**2003-04**	**2002-03**
Revenue from sale of power	544	264	201
Operating costs + Interest + Depreciation	1019.10	913.0	673.0
Coverage	53.39%	28.90%	29.90%

Its dependence on the Government of Mizoram for meeting its revenue and capital expenditure

remains high, even though there is no explicit subsidy as such since it is a Department of the State Government. The Mizoram Governments revenue expenditure on power sector has, however, declined from Rs 130.31 Crore in 2003-04 to Rs 87.31 Crore in 2005-06 (budget estimates)1 , possibly as a result of improved collections by the Department. In fact the Department has made appreciable improvement in reducing AT&C losses even for sales within the sate (from 62% in 2002-03 to 38% in 2004-05) and has initiated distribution reforms like energy metering and energy audit. However, no scores can be assigned since in absolute terms, the difference between costs and revenues remain very high.

Creation of a competitive market-place

Given the slow pace of power sector reforms in the state, and lack of a regulatory commission, it

is unlikely that a competitive environment would be created in the State in the forseeable future.

JHARKHAND

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of 4.00 has been assigned to the power sector in Jharkhand. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weight age	Final Score
	Part-I	**100.00**	**(25.00)**	**(2.00)**	**75%**	**(1.50)**
A	State Govt related parameters	*18.00*	*(8.00)*	*(1.00)*		
B	Regulatory Process	*9.00*	*(5.00)*	*0.50*		
C	Business Risk Analysis	*30.00*	*(7.00)*	*(0.50)*		
D	Financial Risk Analysis	*20.00*	*(1.00)*	*0.00*		
E	Others	*7.00*	*(2.00)*	*(1.00)*		
F	Progress in attaining commercial viability	*16.00*	*(2.00)*	*0.00*		
	Part-II	**100.00**	**0.00**	**22.00**	**25%**	**5.50**
A	Sustainability of state power sector revenue model	*50.00*	*0.00*	*12.00*		
B	Creation of competitive environment	*50.00*	*0.00*	*10.00*		
	FINAL SCORE	**100.00**	**(18.75)**			**4.00**

Strengths

- Regulator has reduced cross-subsidy in tariff (reduced High Tension tariff and increased tariff of domestic consumers)

Weaknesses

- Unbundling on functional lines yet to be completed
- ARR for 2004-05, 2005-06 and 2006-07 not filed by JSEB; affecting the timeliness of tariff orders
- Limited financial support from Government of Jharkhand
- Generating capacity has not been increased over the last 3 years
- Very low operating performance of plants
- Quality of data and MIS availability needs significant improvement
- Open access regulations have been finalised, however, open access charges not formulated

The State Government

Areas of Improvement
Government of Jharkhand (GoJ) has provided limited financial support to Jharkhand State Electricity Board (JSEB) for meetings its losses. A Financial Restructuring Plan (FRP) for providing financial support till turnaround of JSEB needs to be formulated. JSEB has not yet unbundled JSEB along functional lines, as mandated by the Electricity Act, 2003. GoJ needs to take greater initiative in adding capacity in the state, as there have been no capacity additions in the past 3 years.

Regulatory Process

Key Positives
The Jharkhand State Electricity Regulatory Commission (JSERC) has issued only one tariff order for 2003-04 for Jharkhand State Electricity Board (JSEB). The tariff order issued for 2003-04 took steps to rationalise customer categories and also reduce the level of cross-subsidy across consumer categories. An Ombudsman was appointed in March 2006, and consumer grievance fora were set up in April 2006.

Areas of Improvement
JSEB has not filed any ARRs after the tariff order for 2003-04 was issued in December 2003. The timeliness of filing ARR by JSEB remains an area of improvement; timely filing will allow JSEB to recover its annual costs.

Operational Performance

Areas of improvement
The performance of the thermal plants of JSEB needs improvement, with extremely low capacity utilization of its plants. In addition, the auxiliary consumption of the plants is much higher than the limits prescribed for thermal plants. Some of the HT consumers in the state are un-metered. Metering levels has to be completed at a faster pace for a better estimation of the system losses. This would also help in reducing transmission & distribution losses (55 per cent in 2004-05), which is an area of concern.

The metering at the consumer end has to increase for a better estimation of the energy flow in the system. Further, the energy audit needs to be completed for the entire system and not in a selective manner as is being done presently. DTR metering is also extremely low.

Finances

Areas of improvement
JSEB has significant industrial consumption in the state and therefore an improvement in the efficiency would significantly improve its financials.

Sustainability of state power sector revenue model

JSEB has consistently been making losses since inception due to very low operating efficiency and its inability to recover costs. As a result, it would be increasingly dependent on the State Government for support. The Government of Jharkhand (GoJ) reported a revenue surplus of Rs. 1458 million in 2004-05. Based on revised estimates, Jharkhand is likely to report a revenue deficit of Rs. 15532 million in 2005-06. Although JSERC had directed GoJ to pay a subsidy of Rs. 400 million in 2003-04, the subsidy amount may be higher in subsequent years, which may prove to be a constraint on GoJ's finances.

Creation of competitive environment

JSEB has not yet unbundled JSEB along functional lines, as mandated by the Electricity Act, 2003. JSERC has issued regulations for enabling open access in the state in June 2005. However, due to the lack of adequate transmission and distribution infrastructure in the state, the Commission has not notified the charges that would be applicable for an open access customer. GoJ has notified a captive power policy that encourages the setting up of captive power generation plants of any capacity to meet the existing as well as future demand for power of industrial units. The policy also provides for sale of power to JSEB, wheeling it to open access customers and banking of power with JSEB. In addition, GoJ provides a captive power generation subsidy to plants set up in 100 per cent export-oriented units as well as plants set up by SC/ST Entrepreneurs, women entrepreneurs, handicapped persons and ex-service men.

ARUNACHAL PRADESH

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of 3.41 has been assigned to the power sector in Arunachal Pradesh based on the data available till March 2006 . The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weight age	Final Score
	Part-I	**100.00**	**(25.00)**	**4.55**	**75%**	**3.41**
A	State Government Related Parameters	*18.00*	*(8.00)*	*(0.70)*		
B	SERC Related Parameters	*9.00*	*(5.00)*	*(5.00)*		
C	Business Risk Analysis	*30.00*	*(7.00)*	*(0.60)*		
D	Financial Risk Analysis	*20.00*	*(1.00)*	*8.75*		
E	Others	*7.00*	*(2.00)*	*(1.50)*		
F	Progress in attaining commercial viability	*16.00*	*(2.00)*	*3.60*		
	Part-II	**100.00**	**0.00**	**0.00**	**25%**	**0.00**
A	Sustainability of revenue model	*50.00*	*0.00*	*0.00*		
B	Creation of a competitive environment	*50.00*	*0.00*	*0.00*		
	FINAL SCORE	**100**	**(18.75)**			**3.41**

Strengths

- Vast hydroelectric power capacity
- Potential to increase revenues through trading, which has been demonstrated in 2004-05 with revenues from trading increasing from Rs 23.97 Crore to Rs 57.85 Crores.

Weaknesses

- Absence of a commercial orientation in the way the Department is structured and functions.
- Grossly inadequate cost coverage despite the improvement seen in the last two years.
- The AT&C losses at 53.8% for FY 05 are still high though significant improvements have been made on this front.
- Inadequate progress in reforms , including setting up of SERC
- Very weak financial position, with high ATC losses and large gap 187 paisa/kWh between ARR and ACS is very high.
- Very high staffing levels with 10,300 persons employed by the department.

The score assigned to the Power Department of Arunachal Pradesh continues to reflect the unsatisfactory progress in terms of reforms in the sector. There has been virtually no progress in the area of reforms and restructuring of the sector. The state has also not taken any steps to achieve the targets laid down in the Electricity Act 2003 in terms of setting up Special Courts, District level Committees and setting up of SERC. Progress in distribution reforms like feeder level metering, consumer metering and energy audit also remain unsatisfactory.

Arunachal Pradesh has an installed generation capacity of 60.12 MW, which is mainly in the form of distributed stations having installed capacities of several kilowatts only and serving local demand. The thermal power stations belonging to the State Sector in Arunachal Pradesh have been operating at low PLFs as most of these are operated only during the evenings to meet the peak load, in view of the high generation costs. The availability of the hydel units is also lower than the normative levels. The department also gets its share of free power form a hydel plant located in the state. This share amounted to 197.5 MU for FY 05 showing an increased availability over last year.

The State's transmission and distribution system is inadequate as far as meeting demand within the State is concerned. The T&D network in the state comprises of isolated grids supplying power to restricted areas within the state. The technical and non-technical losses in the state remain high. Also as there is no metering at the various interface points accuracy of the loss figures is not very high. The metering of feeders, upto 11 kV level, under the APDRP scheme has also just started. The slow progress on this front

may be attributable to the differences between the estimates provided by the implementing agency i.e. PGCIL and the state department.

The ED continues to score low on most financial parameters on account of low cash collections, inadequate coverage of costs from revenues and no progress in funding pension / gratuity liabilties. Despite a steep increase in revenues on account of trading income (it sold nearly 301 MU of energy outside state in 2004-05 as compared to 200 MU in 2003-04, which has given it an additional revenue of Rs 58 crore), the financial losses have not shown much improvement. The gap between ACS and ARR has reduced from 216 paisa/kWh last year to 187 paisa/kWh, however this figure is still quite high and steps need to be taken to reduce this gap. On the positive side, however, receivables have shown a sharp decrease and the Departments payment track record to creditors has also improved. The Department continues to be heavily dependent on Plan and Non-Plan allocation from the Government to meet its commitments.

There is a pressing need for computerization and the Department needs to strengthen its finance and commercial functions, including book keeping, billing, metering and collections.

However, ICRA acknowledges the constraints, which have been impacting on the performance of the Power Department. Some of the main constraints are as follows:

- Low industrial consumer profile which means limited scope for cross subsidization
- Economy of the state is highly dependent on support from central government.
- Weak Transmission and Distribution network (because of inadequate investments)
- Difficulties in metering, billing owing to nature of the terrain etc

Sustainability of the revenue model of the power sector:

Despite the marginal improvement in financial position on account of trading operations, the Departments coverage of costs from own revenues is not even 50%. This is clear from the table below :

(Figures in Rs Crore)

	2004-05	**2003-04**	**2002-03**
Revenue from sale of power	83.3	36.5	12.3
Operating costs	159.18	93.29	73.88
Interest	21.00	20.50	19.47
Depreciation	0.40	0.60	0.75
Operating costs + Interest +Depn.	180.58	114.39	94.10
Coverage	46.2%	32.1%	13.2%

Given the large untapped potential of the state in hydropower, and the number of projects that are coming up in the Central Sector where it will be entitled to 12% free power, the ability to sustain trading operations do not seem to be in doubt. At the same time, the Department would need to significantly cut down on AT&C losses and implement other measures like a functioning Regulatory Commission to be able to attain commercial viability.

Currently, it is almost wholly dependent on the Government of Arunachal Pradesh for meeting its revenue and capital expenditure, even though there is no explicit subsidy as such since it is a Department of the State Government. The revenue expenditure on account of power sector has gone up from Rs 23.45 Crore in 2003-04 to Rs 106.21 Crore in 2005-06[9] (as per Budget Estimates). ICRA is of the opinion that this position is likely to continue in the foreseeable future.

Creation of a competitive market-place

Given the slow pace of power sector reforms in the state, and lack of a regulatory commission, it is unlikely that a competitive environment would be created in the State in the forseeable future. Thus no scores can be assigned.

[9] Source : State Finances: A Study of Budgets of 2005-06: RBI

NAGALAND

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of 3.19 has been assigned to the power sector in Nagaland based on the data available till December 2005. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**4.25**	**75%**	**3.19**
A	*State Govt. related parameters*	*18.00*	*(8.00)*	1.65		
B	*Regulatory Process*	*9.00*	*(5.00)*	(5.00)		
C	*Business Risk Analysis*	*30.00*	*(7.00)*	0.10		
D	*Financial Risk Analysis*	*20.00*	*(1.00)*	8.00		
E	*Others*	*7.00*	*(2.00)*	(0.50)		
F	*Progress in attaining commercial viability*	*16.00*	*(2.00)*	0.00		
	Part-II	**100.00**	**0.00**	**0.00**	**25%**	**0.00**
A	*Sustainability of state power sector revenue model*	*50.00*	*0.00*	0.00		
B	*Creation of competitive environment*	*50.00*	*0.00*	0.00		
	FINAL SCORE	**100.00**	**(18.75)**			**3.19**

Strengths

- Appreciable improvement in cash collections during 2003-04 and 2004-05 , partly on account of trading income
- Corresponding reduction in AT&C losses from above 60% in 2003-04 to around 47% in 2004-05
- The Government has enacted an innovative legislation, 'Additional Conditions of Supply of Electricity to Villages, 2002' in December 2002 which seeks to transfer the responsibility of electricity management in the villages to the Village Councils under the Nagaland Communitisation of Public Institutions and Services Act, 2002. The Department has implemented Single Point Metering (SPM) through the village council in 158 villages. This has resulted in an significant improvement in collections in the villages which have been covered under the SPM.

Weaknesses

- Increasing trend in losses despite improvement in cash collections, pointing to the fact that tariff hikes have not kept pace with the cost increases, most notably increase in power purchase cost. The current tariffs were last revised in June 2001.
- Despite improvements, AT&C Losses , remain at close to 50% and gap between ARR and ACS remains at over Rs 2.0 / kWh
- Absence of a commercial orientation in the way the Department is structured and functions. As a result the scoring has been constrained by lack of data against several key parameters, especially in the Distribution side.
- Inadequate progress in reforms , including setting up of SERC
- Very little internal generation , resulting in a complete dependence on purchased power from CPSUs. The 24 ME Likimro HE , commissioned at a cost close to Rs 2 billion is not generating any power.
- The Department also feels that shortage of officers and staff for operation and maintenance is a matter of serious concern

The Government of Nagaland has appointed M/s International Management Institute (IMI), New Delhi as consultants for Power Sector Reforms & Restructuring. While the first draft report was submitted in September 2004, the final report was submitted in the 1st half of the current year. The proposals are being evaluated by the Government of Nagaland . In the meantime, the department has launched the communitisation of Electricity Management in the villages through Single Point Metering, under the Nagaland Communitisation Act of Public Institutions and Services. Altogether 176 villages have been communitised and being managed by VEMBs (Village Electricity Management Boards) With the implementation of this programme , revenue billing in these villages, according to the Department, has shown substantial improvement. Taking into account the positive response of the public, the Department now plans to introduce the services in the urban areas like Dimapur and Kohima.

However, apart from the Single Point Metering scheme as part of the VEMB model for supply of electricity and collection of revenues, progress made in term of reforming the

sector or achieving the milestones as envisaged under the Electricity Act, 2003 has been unsatisfactory. The SERC is yet to be formed. The state continues to score low against Generation as well as T&D parameters on account of low PLFs, inadequate progress in areas like 100% metering and energy audit, high level of ATC losses and non-availability of data against some parameters.

Despite improvements in collections from Rs 210 million in 2002-03 to Rs 276.8 million in 2003-04 and 396.5 million in 2004-05, the Department's cash collections meet less than 45% of its total revenue expenditure, implying a high level of dependence on State Governments budgetary support to meet its expenses. AT&C Losses, though have shown a sharp reduction from 63% in 2003-04 to 47% in 2004-05 , even though the extent to which this improvement is attributable to inter-state sales of power cannot be ascertained in the absence of data . Availability of cheap power from the 24 MW Hydel Power plant at Likimro commissioned in February 2002 could have helped in reducing the power purchase cost and improved the financials to an extent, but the unit has not been operational since September, 2002. The tariffs were last revised in June 2001, and the tariffs are clearly inadequate to meet the expenses. The department also claims that the increase in budgetary allocation has been used primarily to meet payment dues to CPSUs, and because of inadequacy of funds, it is understaffed, leading to poor maintenance of the T&D network and generating units. Due to a ban on appointment of Work Charged staff since 1995, vacancies caused due to death and retirement is also no being filled up, further affecting the O&M work in the Department.

With gap between ARR and ACS at over Rs 2.00 per unit despite the improvements, progress towards attaining commercial viability will be critically dependent on the extension of the Single Point Metering scheme to cover more villages and sustenance of the success of decentralised model of revenue management, once it extends to all villages and urban centres. Equally critical will be a revision in tariffs.

Overall, there is a pressing need for "capacity building" in the Electricity Department and strengthening its finance and commercial functions, including book keeping, billing, metering and collections.

Sustainability of the revenue model of the power sector:

Despite the marginal improvement in financial position on account of both trading operations as well as increase in cash collections and corresponding decline in AT&C losses, the Departments coverage of costs from own revenues is still less than 50% as evident from the table below :

(Figures in Rs Million)	**FY'05**	**FY'04**	**FY'03**
Revenue from Sale of Power	477.10	352.50	325.30
Total Expenditure (incl interest & depn)	1160.10	995.00	794.90
% Coverage	41%	35%	41%

One of the key reasons for the inadequate cost coverage is the fact that the tariffs were last revised in June 2001. The lack of tariff increase is off-setting the gains accruing from positive trends in cash collection arising from some innovative measures like the 'Single Point Metering' system .

The department thus has a high degree of dependence on the Government of Nagaland for meeting its revenue and capital expenditure, even though there is no explicit subsidy as such since it is a Department of the State Government. However, the Governments revenue expenditure on the Power Department has declined from Rs 1.58 billion in 2003-04 to Rs 0.94 billion in 2005-06 (Budgetary estimates)[10]. In addition, the Govt. of Nagaland has been running a revenue surplus for the last three years, which is also a positive.

Creation of a competitive market-place

Given the slow pace of power sector reforms in the state, and lack of a regulatory commission, it is unlikely that a competitive environment would be created in the State in the forseeable future.

[10] Source : RBI publication on State Finances : A study of Budgets of 2005-06

BIHAR

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of -3.06 has been assigned to the power sector in Bihar based on the data available till April 2006. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**(4.08)**	**75%**	**(3.06)**
A	*State Govt. related parameters*	*18.00*	*(8.00)*	(0.80)		
B	*Regulatory Process*	*9.00*	*(5.00)*	(3.00)		
C	*Business Risk Analysis*	*30.00*	*(7.00)*	(0.52)		
D	*Financial Risk Analysis*	*20.00*	*(1.00)*	2.50		
E	*Others*	*7.00*	*(2.00)*	(0.25)		
F	*Progress in attaining commercial viability*	*16.00*	*(2.00)*	(2.0)		
	Part-II	**100.00**	**0.00**	**0.00**	**25%**	**0.00**
A	*Sustainability of state power sector revenue model*	*50.00*	*0.00*	0.00		
B	*Creation of competitive environment*	*50.00*	*0.00*	0.00		
						(3.06)
	FINAL SCORE	**100.00**	**(18.75)**	**(4.08)**	**75%**	**(3.06)**

The overall score for Bihar is negative because of the following factors:

- Very weak financial position with coverage of costs from revenue at less than 50% and defaults on institutional loans. The gap between ARR and ACS is in excess of Rs 2/ kWh.
- Absence of any significant progress in power sector reforms., including distribution reforms
- Virtually no progress in implementing the provisions of the Electricity Act, 2003. The SERC , though constituted, is yet to come out with a tariff order.
- Poor PLFs and availability factor arising out of relatively high age of plants and inadequate R&M exercise.
- Poor MIS and data availability.

The Bihar Government (GoB) has yet to start power sector reforms in a significant way. It has not passed any comprehensive legislation for power sector reforms or formulated any FRP/ restructuring plans for the state utility, the Bihar State Electricity Board (BSEB). However, the GoB is contemplating organisational restructuring for BSEB and the Board has also submitted a financial restructuring proposal to the GoB. The GoB has also during FY 2006 created a three member SERC and its Chairman and members have been appointed. However, the first ARR (for FY 2006-07) has yet to be filed by BSEB. Although the GoB has been infusing funds into BSEB, the same has been in the form of loans, write-off/adjustment of past dues to GoB as well as a one-time assumption of liabilities under the tripartite agreement rather than as subsidy payments. Further, the quantum of the funds infusion is not sufficient in relation to the Board's losses. The state has also made only limited attempts to curb power thefts and the state is also lagging behind in household electrification and addition to generation capacities.

The power stations belonging to the BSEB continue to operate at low PLFs and availability factor with high manpower levels. Although, the BSEB has commenced energy accounting activities in Bihar, in the absence of adequate number and quality of meters (both at 11kV levels, DT levels and at consumer end) it has been unable to carry out comprehensive energy audit to determine real T&D losses. Data on most T&D and commercial parameters were also not available to ICRA. ATC loss is estimated at over 40% for the three-year period we have looked at. However, ATC loss figures may be misleading in the absence of any data on units metered and any scientific assessment of agricultural consumption

BSEB's financial position continues to be weak, in fact there has been progressive deterioration in certain key areas like receivables. Dismal PLF levels in the power plants owned by BSEB, high manpower costs owing to major overstaffing both in relation to energy generated and consumers served, high interest costs and non receipt of subsidy from the government has resulted in large cash losses. These, coupled with non receipt of any fresh equity support from the Govt., has resulted in an erosion of its net worth and defaults to its lenders.

The losses as measured by ARR-ACS or ARR/ACS too remain high and in fact has worsened over the years with gap between ARR and ACS at over Rs 2 / kWh for 2003-04 and 2004-05. The adjusted book losses estimated on the basis of cash collection figures made available to us too have increased since FY 2002.

BSEB's MIS is also very poor and it is unable to provide several critical data, particularly those pertaining to T&D and commercial functions as well as detailed provisional/audited accounts for the years FY 2003 to FY 2005.

Sustainability of the revenue model of the power sector:

The state of Bihar does not appear to have a sustainable revenue model. ICRA estimates that the BSEB is making substantial cash losses, which are getting funded not by state govt. subsidy but by loans from state government. Financial parameters such as adjusted book losses (Rs. 1400 crores in FY 2005) , gap between ARR and ACS gap and cost coverage through revenue (44%) for BSEB have been very poor and in fact represented some deterioration over FY 2004. BSEB officials have been unable to give us any estimates for FY 2006. Given the fact that there have been no tariff revisions in FY 2006 to compensate the cost increases that have taken place during the period, as also the fact that progress in terms of distribution reforms have been very limited, ICRA does not expect any significant reduction in losses in FY 2006. However, ICRA understands that BSEB has given a large turnkey order to PGCIL for undertaking T&D loss reduction measures and successful implementation would be key for future loss reduction.

Creation of a competitive market-place

One of the fundamental preconditions for creating a competitive market place, unbundling the sector on functional lines and separation of trading and transmission functions has yet to be started. Further, the SERC has just been constituted and yet to give any directions on key policy measures such as open access in transmission or distribution, intra-state ABT or competitive bidding for power.

MANIPUR

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

A score of (–) 6.67 has been assigned to the power sector in Manipur based on the data available till December 2005. The distribution of marks against the parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**(8.89)**	**75%**	**(6.67)**
A	*State Govt. related parameters*	*18.00*	*(8.00)*	(0.81)		
B	*Regulatory Process*	*9.00*	*(5.00)*	(5.00)		
C	*Business Risk Analysis*	*30.00*	*(7.00)*	(0.83)		
D	*Financial Risk Analysis*	*20.00*	*(1.00)*	0.75		
E	*Others*	*7.00*	*(2.00)*	(1.00)		
F	*Progress in attaining commercial viability*	*16.00*	*(2.00)*	(2.00)		
	Part-II	**100.00**	**0.00**	**0.00**	**25%**	**0.00**
A	*Sustainability of state power sector revenue model*	*50.00*	*0.00*	0.00		
B	*Creation of competitive environment*	*50.00*	*0.00*	0.00		
	FINAL SCORE	**100.00**	**(18.75)**			**(6.67)**

Strengths:

- Appreciable improvement in cash collections from Rs 30.45 Crores in 2003-04 to Rs 56.55 Crores in 2004-05. Losses, on an accrual basis , have also shown a marginal decline , partly because of increase in trading income
- Potential of Power trading

Weaknesses

- Despite the very weak financial position, there has been no tariff hike after October 2002. This has negated the impact of improving cash collections
- AT&C losses, despite improvement, continue to remain exceptionally high at above 60%.
- The increase in cash collections notwithstanding, the gap between ARR and ACS has been widened, because of lack of tariff hikes coupled with increase in cost of purchased power
- Unsatisfactory progress in terms of initiating reforms in the sector
- Absence of a State Electricity Regulatory Commission (SERC)

The Manipur Government's progress with respect to implementation of the Electricity Act, 2003 has so far been unsatisfactory. The Government of Manipur had appointed the Administrative Staff College of India, Hyderabad, (ASCI) to provide consultancy services to, *inter alia*, assess the restructuring options for the power sector, to recommend suitable regulatory system for the sector and for financial restructuring. An inception report highlighting the approach and methodology for the assignment, time schedules and current status of the power sector in Manipur was prepared, submitted and approved. However no further action has been taken towards it. Manipur Government is holding talks for setting up Joint Electricity Regulatory Commission (JERC) with Mizoram however no JERC/SERC has been formed as yet.

The score assigned to the Generation parameters continue to reflect the low PLF and Availability Factor since most stations are run for Stand-by purposes only.

The Department attained significant improvement in cash collections in 2004-05. The Department is planning to initiate Energy Audit once the 11 kV/ 400 V substations are metered which is expected shortly for some of the substations. However, as of now, no energy audit has been started.

The Electricity department continues to score low on almost all parameters. The gap between ARR and ACS is very alarming, in fact despite improvement, it remains at above 250 paisa per unit. There is a pressing need for computerization, since manual data entry and retrieval has been resulting in inconsistency in data obtained from different sources.

However, ICRA acknowledges the constraints, which have been impacting on the performance of the Power Department. Some of the main constraints are as follows:

- Low industrial consumer profile which means limited scope for cross subsidization
- Economy of the state is highly dependent on support from central government.
- Weak Transmission and Distribution network (because of inadequate investments)
- Difficulties in metering, billing owing to nature of the terrain etc

Sustainability of the revenue model of the power sector:

Despite the marginal improvement in financial position on account of trading operations, the Departments coverage of costs from own revenues is only about 40% as evident from the table below:

Figures in Rs Crores	**2004-05**	**2003-04**	**2002-03**
Revenue from sale of power	79.84	32.96	35.29
Operating costs	126.90	102.50	113.88
Interest	16.50	15.94	11.75
Depreciation	48.37	44.26	39.61
Operating costs + Interest +Depn.	191.77	162.70	165.23
Coverage	41.63%	20.26%	21.36%
PBT	**-111.93**	**-129.74**	**-129.94**

It thus has a high dependence on the Government of Manipur for meeting its revenue and capital expenditure, even though there is no explicit subsidy as such since it is a Department of the State Government. The Manipur Governments' revenue expenditure on the Power Department has gone up from 100.98 Crore in 2003-04 to 126.87 Crore in 2005-06 (Budget estimates)[11]. ICRA is of the opinion that the sector will continue to be a drag on the Governments fiscal position for years to come.

Creation of a competitive market-place

Given the slow pace of power sector reforms in the state, and lack of a regulatory commission, it is unlikely that a competitive environment would be created in the State in the forseeable future.

Source: RBI study on State Finances : A study of Budgets of 2005-06

JAMMU & KASHMIR

POWER SECTOR

Report to the Ministry of Power

June 2006

EXECUTIVE SUMMARY

An overall score of (-) 6.69 has been assigned to the power sector in Jammu & Kashmir. The distribution of marks against the various parameters is as follows:

		Max score	Min Score	Score Assigned	Weightage	Final Score
	Part-I	**100.00**	**(25.00)**	**(9.58)**	**75%**	**(7.19)**
A	*State Govt related parameters*	*18.00*	*(8.00)*	*(2.23)*		
B	*Regulatory Process*	*9.00*	*(5.00)*	*(5.00)*		
C	*Business Risk Analysis*	*30.00*	*(7.00)*	*(2.45)*		
D	*Financial Risk Analysis*	*20.00*	*(1.00)*	*0.00*		
E	*Others*	*7.00*	*(2.00)*	*0.10*		
F	*Progress in attaining commercial viability*	*16.00*	*(2.00)*	*0.00*		
	Part-II	**100.00**	**0.00**	**2.00**	**25%**	**0.50**
A	*Sustainability of state power sector revenue model*	*50.00*	*0.00*	*0.00*		
B	*Creation of competitive environment*	*50.00*	*0.00*	*2.00*		
	FINAL SCORE	**100.00**	**(18.75)**			**(6.69)**

Strengths

- Strong support from the Govt. of J&K in taking care of bulk of the revenue expenditure of the power department.

Weaknesses

- Exceptionally high AT&C losses at approximately 67%.
- The power sector recovering only a fraction of its expenses (<20%) from sale of power leading to high dependence on state exchequer.
- Weak state government finances with high dependence on grants from centre.
- State Govt. yet to frame a state Act on the lines of Electricity Act 2003, since the latter is not applicable in the state of J&K.
- SERC, though constituted, is yet to be fully operational.

- Restructuring of the power sector yet to be taken up by the State Govt. JKPDD not being run on commercial basis.
- Low level of interface metering (only 32% at 11KV level)
- Negligible metered sales due to low consumer metering and faulty meters.
- Energy Audit, in any shape, yet to be taken up.
- High payables on account of UI charges (>Rs. 2.27 Billion)
- Poor Quality of power with high DTR failure rate of 38.7%.
- High manpower levels (19.4 employees per '000 consumers).

The State Government

Key Positives

There exists a strong support from the state govt. to take care of the expenses of the power department with the state exchequer funding the entire funding gap, which is over 80% of the total expenditure of the J& K power department. Govt. of J&K is directly making payments to CPSUs for purchase of power.

Areas of Improvement

Govt. of J&K is yet to frame a state Act on the lines of Electricity Act 2003 since the latter is not applicable in the state of J&K. The restructuring of the power department yet to be taken up which assumes immense urgency in the presence of large-scale losses and the JKPDD not being run on commercial basis. There have been significant delays in the operationalisation of the SERC. The state continues to have a very low household electrification level of 63%.

Electricity Regulatory Commission

The SERC is not yet fully operational with only the chairman being appointed and the supporting staff yet to be strengthened. No Annual Revenue Requirement (ARR) has been filed by the JKPDD till date.

Operational Parameters (Generation, Transmission and Distribution)

Key Positives

The hydel generating plants in the state are having a comfortable operational profile with low auxiliary consumption.

Areas of Improvement

The state is having an exceptionally high Aggregate Technical & Commercial (AT&C) losses at approximately 67%, which is fallout of low level of, interface metering (only

32% at the 11KV level), negligible metered billing and a complete absence of energy audit. The quality of power remains poor with a DTR failure rate of as high as 38.7%. Further, the manpower levels in T&D are significantly high with over 19 employees for every thousand customers.

Finances

Areas of Improvement

Financial data for J&K power sector remains inadequate since the JKPDD, which maintains the entire transmission and distribution in the state is not being run on commercial basis. There is a need to urgently corporatise the JKPDD; so that the entity's stand alone financial position can be clearly segregated from the integrated finances of the state govt. The revenues collected, as on today are not even 30% of the expenses on the purchase of power from the CPSUs, so considerable financial improvements need to take place. Further, the state has been continuously defaulting on payment of UI charges for overdrawl from the Grid, though the payments have been timely to CPSUs for power purchase after signing of the tripartite securitization scheme of the Central Govt.

Sustainability of state power sector revenue model

Though there is no explicit subsidy paid by GoJK to the power department for supply of power to any specific class of consumers, JKPDD is highly dependent on the state exchequer for meeting its basic operational expenditure. JKPDD is able to collect less than 20 percent of its expenditure through revenue realised from sale of power, the balance being funded directly by the state government. In fact, the quantum of power deficit that is funded by the state government is more than double the revenue billed and over three times the cash collected by the power department. The department has extremely high AT&C losses at 67 percent and only around 63 percent of amount billed is collected. The state government itself is highly dependent on the central government in covering the operational expenditure of the state. The revenue receipts from own sources contribute only around a quarter of the revenue expenditure whereas the balance is contributed by the central government in terms of grants and share in central taxes. Power sector is a significant drain on the state resources with subsidies to fund power deficits contributing almost two-thirds of the revenue collected from own sources by the state. There is an urgent need to bring in reforms, accountability and running of the operations of the power sector in the state on commercial basis in order to overcome the current unsustainable revenue model with an alarmingly high dependence on state exchequer.

Creation of competitive environment

Though an SERC has been established in the state of J&K, the regulator is yet to swing in action by bringing in requisite regulations that can enable the creation of a competitive environment in the state. The primary reason of the inaction being the fact that the

Electricity Act 2003 does not apply to the state of J&K and the state cabinet is yet to adopt an act on similar lines. This is further exaggerated by the inadequate infrastructure and manpower provided to the regulator to carry on basic operations. The state government has neither been unable to take steps towards corporatising the power department which could have brought in greater accountability and commercial behaviour in operations nor it has been able to unbundled the sector on functional lines which is a pre-requisite for ushering in competition in the sector.

6. DETAILED SCORESHEET

				1	2	3	4	5	6	7	8	9	10	11	12	13	14
		Max score	Min score	Andhra Pradesh	Gujarat	Delhi	Karnataka	West Bengal	Goa	HP	Maharashtra	Kerala	Tamil Nadu	Assam	Rajasthan	Punjab	Chattisgarh
	FINAL SCORES			**55.81**	**54.46**	**50.87**	**46.92**	**46.24**	**44.96**	**43.08**	**35.41**	**31.63**	**29.71**	**28.46**	**27.80**	**27.69**	**27.45**
	Part I																
I	**External Factors**	**27.00**	**(13.00)**	**12.45**	**8.31**	**14.99**	**10.88**	**10.47**	**0.70**	**8.21**	**4.03**	**0.94**	**0.01**	**10.15**	**10.43**	**(1.30)**	**1.26**
A	**State Govt related parameters**	**18.00**	**(8.00)**	**4.70**	**5.31**	**10.49**	**7.03**	**3.47**	**3.70**	**3.71**	**2.78**	**(1.31)**	**(1.49)**	**7.00**	**6.43**	**(1.05)**	**(2.74)**
A 1	**Implementation of Targets laid down in EA, 2003**	**3.50**	**(1.00)**	**3.40**	**3.00**	**1.75**	**2.50**	**1.75**	**(1.00)**	**1.75**	**2.75**	**(0.25)**	**(1.00)**	**2.50**	**2.25**	**(0.50)**	**(0.50)**
A1.1	Functioning of Special Courts and Police Stations for trial of theft related cases	1.00	(1.00)	0.90	1.00	0.50	0.50	0.75	(1.00)	1.00	0.25	(1.00)	(1.00)	0.50	0.5	(1.00)	(1.00)
A1.2	Designation of Assessing officers by State Govt. under Section 126	0.50	0.00	0.50	0.50	0.50	0.50	0.50	0.00	0.50	0.50	0.50	0.00	0.50	0.5	0.50	0.50
A1.3	Setting up of fund for regulatory Commission	0.50	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.25	0.50	0.00	0.00	0.00	0	0.00	0.00
A1.4	Constitution and actual functioning of district level committtees under section	0.50	0.00	0.50	0.50	0.25	0.50	0.50	0.00	0.00	0.50	0.25	0.00	0.50	0.25	0.00	0.00
A1.5	Separation of transmission function	1.00	0.00	1.00	1.00	0.50	1.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1	0.00	0.00
A2	**Access to Electricity**	**5.00**	**(1.00)**	**1.68**	**1.61**	**1.74**	**2.53**	**0.22**	**4.70**	**2.00**	**0.54**	**2.14**	**0.90**	**1.00**	1.05	**2.40**	**0.95**
A2.1	100% electrification of households	3.00	0.00	1.68	2.61	1.74	2.53	0.78	4.70	3.00	1.54	2.14	1.90	0.50	1.05	2.40	0.95
A2.2	Rural Electrification	**2.00**	**(1.00)**	0.00	**(1.00)**	**0.00**	**0.00**	**(0.56)**	**0.00**	**(1.00)**	**(1.00)**	**0.00**	**(1.00)**	**0.50**		0.00	**0.00**
A3	**- 3 year track record on subsidy payments**	**0.00**	**(6.00)**	**(4.88)**	**(4.80)**	**0.00**	**(3.00)**	**0.00**	**0.00**	**(3.04)**	**(3.51)**	**(3.19)**	**(4.64)**	**0.00**	**(3.37)**	**(3.95)**	**(3.18)**
A4	**Structural Adjustment Support provided to utilities**	**3.50**	**0.00**	**3.00**	**3.50**	**3.00**	**3.50**	**0.50**	**0.00**	**0.00**	**3.00**	**0.00**	**0.25**	**3.50**	**3.50**	**0.00**	**0.00**
A4.1	Transitional support to utilties (Equity infusion, Provision of soft loans, Conversion of debt to equity, Commitment of subsidy for the year/specified period, Bonds for meeting deficit)	2.00	0.00	1.50	2.00	1.50	2.00	0.50	0.00	0.00	1.50	0.00	0.25	2.00	2	0.00	0.00
A4.2	Formulation of Financial Restructuring Plan	**1.50**	**0.00**	**1.50**	**1.50**	**1.50**	**1.50**	**0.00**	**0.00**	**0.00**	**1.50**	**0.00**	**0.00**	**1.50**	**1.5**	**0.00**	**0.00**
A5	**Implementation of Anti-Theft Legislation measures**	**3.00**	**0.00**	**0.00**	**2.00**	**1.00**	**0.00**	**1.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.00**	**0.00**
A6	**Addition to Generation Capacity**	**3.00**	**0.00**	**1.50**	**0.00**	**3.00**	**1.50**	**0.00**	**0.00**	**3.00**	**0.00**	**0.00**	**3.00**	**0.00**	**3.00**	**0.00**	**0.00**

				1	2	3	4	5	6	7	8	9	10	11	12	13	14
		Max score	Min score	Andhra Pradesh	Gujarat	Delhi	Karnataka	West Bengal	Goa	HP	Maharashtra	Kerala	Tamil Nadu	Assam	Rajasthan	Punjab	Chattisgarh
B	**Regulatory Process**	**9.00**	**(5.00)**	**7.75**	**3.00**	**4.50**	**3.85**	**7.00**	**(3.00)**	**4.50**	**1.25**	**2.25**	**1.50**	**3.15**	**4.00**	**(0.25)**	**4.00**
B 1.1	**Timeliness of Tariff Order**	**0.00**	**(2.00)**	**0.00**	**(2.00)**	**(1.00)**	**(1.50)**	**0.00**	**(2.00)**	**(1.00)**	**(2.00)**	**0.00**	**(2.00)**	**(0.50)**	**(1.25)**	**(1.00)**	**(1.00)**
B1.2	**Submission of ARR for FY 2005-06**	0.00	(1.00)	0.00	(1.00)	(0.25)	(0.90)	0.00	(1.00)	(0.50)	(1.00)	0.00	(1.00)	(1.00)	(0.50)	(0.50)	(0.50)
B2	**Implementation of Tariff Order**	**0.00**	**(2.00)**	**(0.25)**	**0.00**	**(0.25)**	**(0.50)**	**0.00**	**0.00**	**(0.50)**	**(1.00)**	**(1.50)**	**(0.50)**	**(0.60)**	**(0.50)**	**(1.50)**	**(0.50)**
B2.1	Upfront subsidy payment by state government (even if quarterly or monthly payment, it should be in advance)	0.00	(1.00)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(1.00)	0.00	0.00	0.00	(1.00)	0.00
B2.2	Compliance of regulator directives	0.00	(1.00)	-0.25	0.00	(0.25)	(0.50)	0.00	0.00	(0.50)	(1.00)	(0.50)	(0.50)	(0.60)	(0.50)	(0.50)	(0.50)
B3	**Nature and Scope of Tariff Order**	**4.00**	**0.00**	**3.00**	**2.00**	**3.50**	**1.75**	**2.00**	**0.00**	**2.50**	**1.25**	**0.75**	**0.50**	**1.75**	**2.25**	**1.75**	**3.00**
B3.1	Reduction in cross subsidy and tariffs tending to cost of supply	1.00	0.00	0.75	0.50	1.00	0.50	1.00	0.00	1.00	0.25	0.00	0.00	0.00	0.5	1.00	1.00
B3.2	Merit-order despatch of power	0.50	0.00	0.50	0.25	0.50	0.50	0.50	0.00	0.50	0.50	0.50	0.25	0.25	0.5	0.50	0.50
B3.3	Rationalisation of tariff slabs and TOD tariff	0.50	0.00	0.25	0.25	0.25	0.25	0.50	0.00	0.50	0.50	0.25	0.25	0.50	0	0.00	0.50
B3.4	Increase in fixed charge component of tariff (Both at retail end and also in case of unbundled scenario at Transco level)	1.00	0.00	0.50	0.50	0.75	0.50	0.00	0.00	0.50	0.00	0.00	0.00	0.50	0.25	0.25	1.00
B3.5	Formulation of Multi-Year Tariff policy	1.00	0.00	1.00	0.50	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1	0.00	0.00
B4	**Implementation of Electricity Act 2003**	**5.00**	**0.00**	**5.00**	**4.00**	**2.50**	**5.00**	**5.00**	**0.00**	**4.00**	**4.00**	**3.00**	**4.50**	**3.50**	**4.00**	**1.00**	**3.00**
B4.1	Enforecement of performance standards of licensees under Section 57	1.00	0.00	1.00	1.00	0.75	1.00	1.00	0.00	1.00	0.50	0.00	0.50	1.00	0.75	0.00	0.00
B4.2	Monitoring the working of forum for redressal of Grievances of Consumers	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.50	1.00	0.50	0.75	0.00	1.00
B4.3	Appointment of Ombudsman and functioning of its office	1.00	0.00	1.00	1.00	0.75	1.00	1.00	0.00	1.00	0.50	0.50	1.00	0.00	0.50	0.00	1.00
B4.4	Finalisation of Open Access Guidelines	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
B4.5	Issue of State Grid Code Specifications	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
II	**Internal Factors**	**73.00**	**(12.00)**	**43.29**	**37.64**	**34.50**	**29.68**	**32.52**	**42.58**	**33.23**	**28.52**	**30.90**	**29.28**	**19.80**	**13.30**	**27.55**	**18.33**
C	**Business Risk Analysis**	**30.00**	**(7.00)**	**17.77**	**14.34**	**14.80**	**13.70**	**9.96**	**13.08**	**19.45**	**8.47**	**14.68**	**16.97**	**6.45**	**5.00**	**12.83**	**9.76**
C 1	**- Generation**	**6.00**	**(1.00)**	**5.00**	**4.25**	**3.00**	**5.00**	**1.25**	**0.00**	**5.00**	**3.00**	**1.75**	**3.50**	**0.50**	**5.00**	**4.38**	**3.16**
C1.1	AUXILIARY POWER CONSUMPTION (%)	1.00	0.00	1.00	0.75	0.75	1.00	0.50	0.00	1.00	1.00	0.75	1.00	0.50	0.75	1.00	0.75
C1.2	PLANT LOAD FACTOR (%)	2.00	0.00	1.50	1.00	0.25	1.50	0.50	0.00	0.00	1.00	0.00	1.50	0.00	1.5	1.50	1.00
C1.3	PLANT AVAILABILITY FACTOR (%)	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	4.00	0.50	0.00	0.50	0.00	2	1.50	0.91

				1	2	3	4	5	6	7	8	9	10	11	12	13	14
		Max score	Min score	Andhra Pradesh	Gujarat	Delhi	Karnataka	West Bengal	Goa	HP	Maharashtra	Kerala	Tamil Nadu	Assam	Rajasthan	Punjab	Chattisgarh
C1.4	> Manpower level per MW capacity-thermal (NTPC as benchmark)	0.50	(0.50)	0.00	0.50	0.00	0.00	0.25	0.00	0.00	0.00	0.50	0.00	0.00	0.25	0.00	0.00
C1.5	> Manpower level per MW capacity-hydel (WAPCOS Report)	0.50	(0.50)	0.50	0.00	0.00	0.50	0.00	0.00	0.00	0.50	0.50	0.50	0.00	0.5	0.38	0.50
C 2	**- Transmission**	**1.00**	**(1.00)**	**1.00**	**0.90**	**1.00**	**0.60**	**0.80**	**0.00**	**0.70**	**0.80**	**0.90**	**0.99**	**0.80**	**0.00**	**0.90**	**(0.10)**
C2.1	Level of Interface Metering at 11 kV	0.00	(1.00)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-1	0.00	(1.00)
C2.2	Availability of Transmission	1.00	0.00	1.00	0.90	1.00	0.60	0.80	0.00	0.70	0.80	0.90	0.99	0.00	1	0.90	0.90
C 3	**- Distribution**	**23.00**	**(5.00)**	**11.77**	**9.19**	**10.80**	**8.10**	**7.91**	**13.08**	**13.75**	**4.67**	**12.03**	**12.48**	**5.15**	**0.00**	**7.55**	**6.70**
C3.1	QUALITY OF T&D NETWORK	4.50	(0.50)	2.05	1.79	2.85	1.00	(0.20)	2.18	3.25	(0.50)	2.94	2.08	2.25	(0.30)	1.74	0.46
C3.2	Units billed on metered basis/ Units input in the system	**4.00**	**0.00**	**2.00**	**0.00**	**2.00**	**0.00**	**2.00**	**5.00**	**4.00**	**0.00**	**3.00**	**2.00**	**2.00**	**0**	**2.00**	**2.00**
C3.3	**> Redressal of Consumer Grievances**	**1.50**	**0.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.25**	**0.62**	**1.50**	**0.00**	**0.50**	**0.75**	**0.00**	**0.75**	**0.25**	**0.52**
C3.4	**> Energy Audit (11 kV)**	**5.00**	**(1.00)**	**1.22**	**1.50**	**3.15**	**1.85**	**1.56**	**0.59**	**5.00**	**1.47**	**1.34**	**0.90**	**0.90**	**0.95**	**1.06**	**0.67**
C3.5	**>Aggregate technical & commercial losses (ATC) in % terms**	**5.00**	**(2.50)**	**2.50**	**2.50**	**0.00**	**1.25**	**2.50**	**4.69**	**2.50**	**2.50**	**1.25**	**3.75**	**0.00**	**-2**	**2.50**	**1.25**
C3.6	**> Manpower in T&D**	**3.00**	**(1.00)**	**3.00**	**2.40**	**1.80**	**3.00**	**1.80**	**0.00**	**0.00**	**1.20**	**3.00**	**3**	**0.00**	**0.6**	**0.00**	**1.80**
D	**Financial Risk Analysis**	**20.00**	**(1.00)**	**14.25**	**11.00**	**8.50**	**9.63**	**6.50**	**13.00**	**7.63**	**10.00**	**6.50**	**8.38**	**5.50**	**6.00**	**7.88**	**6.51**
D 1	**> Gearing level (Total Debt / Adjusted Networth)**	**2.50**	**0.00**	**1.25**	**0.00**	**0.00**	**1.88**	**0.00**	**2.50**	**0.63**	**2.50**	**0.00**	**0.63**	**0.00**	**0**	**1.875**	**1.25**
D 2	**> [Revenues from sale of power excl subsidy)/**	**5.00**	**0.00**	**3.75**	**0.00**	**2.50**	**2.50**	**1.25**	**5.00**	**1.25**	**1.25**	**5.00**	**1.25**	**1.25**	**0**	**1.25**	**1.88**
D 3	**- Actual track record of debt servicing**	**5.00**	**0.00**	**5.00**	**5.00**	**2.50**	**2.50**	**1.25**	**5.00**	**5.00**	**2.50**	**2.50**	**5.00**	**2.50**	**2.5**	**2.50**	**0.00**
D 4	**> Trends in Level of receivables (Days of sales)**	**3.00**	**(1.00)**	**0.75**	**3.00**	**(1.00)**	**0.75**	**3.00**	**(1.00)**	**0.75**	**0.75**	**(1.00)**	**0.00**	**0.75**	**-1**	**0.75**	**0.38**
D 5	**Creditors**									0							
D 6	**> Funding of pension and gratuity liabilities**	**3.00**	**0.00**	**2.00**	**3.00**	**3.00**	**2.00**	**1.00**	**0.00**	**0.00**	**3.00**	**0.00**	**0.00**	**1.00**	**3**	**0.00**	**3.00**
E	**Others**	**7.00**	**(2.00)**	**5.07**	**5.50**	**5.00**	**3.55**	**3.86**	**0.50**	**2.95**	**2.25**	**2.92**	**0.73**	**2.25**	**3.50**	**2.25**	**0.87**
E1	**Non IT related**	**2.00**	**(1.50)**	**1.75**	**1.50**	**1.50**	**1.75**	**1.25**	**1.00**	**1.95**	**0.50**	**1.75**	**0.25**	**0.50**	**1.25**	**1.25**	**(0.50)**
E2	**IT Related**	**3.50**	**(0.50)**	**2.32**	**2.50**	**2.75**	**1.80**	**1.86**	**(0.50)**	**1.00**	**1.75**	**1.17**	**0.48**	**0.25**	**0.75**	**1.00**	**1.37**
E3	**Business Plan**	**1.50**	**0.00**	**1.00**	**1.50**	**0.75**	**0.00**	**0.75**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.50**	**1.5**	**0.00**	**0.00**
F	**Progress in attaining commercial viability**	**16.00**	**(2.00)**	**6.20**	**6.80**	**6.20**	**2.80**	**12.20**	**16.00**	**3.20**	**7.80**	**6.80**	**3.20**	**5.60**	**(1.20)**	**4.60**	**1.20**
F1	**Average Revenue Realisation - Average Cost of supply**	**4.00**	**0.00**	**1.60**	**2.40**	**1.60**	**0.80**	**3.60**	**4.00**	**1.60**	**2.40**	**2.40**	**1.60**	**0.00**	**0.8**	**1.60**	**1.60**
F2	**Same as above, in % terms (ARR - ACS) / ARR X 100**	**4.00**	**0.00**	**1.60**	**2.40**	**1.60**	**0.00**	**3.60**	**4.00**	**1.60**	**2.40**	**2.40**	**1.60**	**0.00**	**0.00**	**0.00**	**1.60**
F3	**Trends in ARR - ACS with 2001-02 as base year**	**4.00**	**(1.00)**	**1.00**	**1.00**	**2.00**	**1.00**	**2.00**	**4.00**	**(1.00)**	**1.00**	**1.00**	**1.00**	**3.60**	**-1**	**1.00**	**(1.00)**

				1	2	3	4	5	6	7	8	9	10	11	12	13	14
		Max score	Min score	Andhra Pradesh	Gujarat	Delhi	Karnataka	West Bengal	Goa	HP	Maharashtra	Kerala	Tamil Nadu	Assam	Rajasthan	Punjab	Chattisgarh
F4	**Trends in Adjusted Book Loss reduction with 2001-02 as base year**	4.00	(1.00)	2.00	1.00	1.00	1.00	3.00	4.00	1.00	2.00	1.00	(1.00)	2.00	-1	2.00	(1.00)
	SCORE Part I (75% of Total Score)	100.00	(25.00)	55.74	45.95	49.49	40.56	42.99	43.28	41.44	32.55	31.84	29.29	29.95	23.73	26.25	19.60
	PART II																
A	Sustainability of state power sector revenue model			32	40.00	38.00	34.00	40.00	50.00	32.00	20	16.00	16	8.00	16	16	32.00
B	Creation of competitive environment			24	40.00	17.00	32.00	16.00	0.00	16.00	24	15.00	15	16.00	24	16	19.00
	SCORE Part II (25% of Total Score)	100.00	0.00	56.00	80.00	55.00	66.00	56.00	50.00	48.00	44.00	31.00	31.00	24.00	40.00	32.00	51.00
	FINAL SCORE	100.00	(18.75)	55.81	54.46	50.87	46.92	46.24	44.96	43.08	35.41	31.63	29.71	28.46	27.80	27.69	27.45

				15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
		Max score	Min score	Uttranchal	Tripura	Meghalaya	Uttar Pradesh	Haryana	Madhya Pradesh	Orrissa	Sikkim	Mizoram	Jharkhand	Arunachal Pradesh	Nagaland	Bihar	Manipur	Jammu and Kashmir
	FINAL SCORES			**27.06**	**26.51**	**24.91**	**24.38**	**23.75**	**21.97**	**21.25**	**14.03**	**7.13**	**4.00**	**3.41**	**3.19**	**(3.06)**	**(6.67)**	**(6.69)**
	Part I																	
I	**External Factors**	**27.00**	**(13.00)**	**7.04**	**4.53**	**(1.50)**	**10.60**	**4.50**	**11.60**	**8.25**	**(4.17)**	**(4.00)**	**(0.50)**	**(5.70)**	**(3.35)**	**(3.80)**	**(5.81)**	**(7.23)**
A	**State Govt related parameters**	**18.00**	**(8.00)**	**3.04**	**5.53**	**1.50**	**7.60**	**2.00**	**5.60**	**3.25**	**0.83**	**1.00**	**(1.00)**	**(0.70)**	**1.65**	**(0.80)**	**(0.81)**	**(2.23)**
A 1	**Implementation of Targets laid down in EA, 2003**	**3.50**	**(1.00)**	**2.50**	**1.50**	**1.00**	**2.00**	**0.50**	**2.75**	**1.75**	**(0.50)**	**(1.00)**	**(1.00)**	**(1.00)**	**(1.00)**	**(1.00)**	**(1.00)**	**(1.00)**
A1.1	Functioning of Special Courts and Police Stations for trial of theft related cases	1.00	(1.00)	0.75	0.50	(1.00)	0.50	(1.00)	0.50	(0.75)	(1.00)	(1.00)	(1.00)	(1.00)	(1.00)	(1.00)	(1.00)	(1.00)
A1.2	Designation of Assessing officers by State Govt. under Section 126	0.50	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
A1.3	Setting up of fund for regulatory Commission	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
A1.4	Constitution and actual functioning of district level committtees under section	0.50	0.00	0.25	0.50	0.50	0.50	0.00	0.25	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0
A1.5	Separation of transmission function	1.00	0.00	1.00	0.00	0.00	0.50	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
A2	**Access to Electricity**	**5.00**	**(1.00)**	**0.04**	**0.03**	**0.00**	**1.10**	**1.25**	**(0.15)**	**0.00**	**1.33**	**0.50**	**0.00**	**0.30**	**2.65**	**(0.80)**	**0.19**	**0.27**
A2.1	100% electrification of households	3.00	0.00	1.04	1.03	1.00	0.60	2.25	0.85	0.00	2.33	1.50	0.00	1.30	1.65	0.20	1.19	1.27
A2.2	Rural Electrification	**2.00**	**(1.00)**	**(1.00)**	**(1.00)**	**(1.00)**	**0.50**	**(1.00)**	**(1.00)**	0.00	**(1.00)**	**(1.00)**	0.00	**(1.00)**	**1.00**	**(1.00)**	**(1.00)**	-1
A3	**- 3 year track record on subsidy payments**	**0.00**	**(6.00)**	**0.00**	**0.00**	**0.00**	**0.00**	**(6.00)**	**(3.00)**	0.00	**0.00**	**0.00**	0.00	**0.00**	**0.00**	**0.00**	**0.00**	-3
A4	**Structural Adjustment Support provided to utilities**	**3.50**	**0.00**	**0.50**	**0.50**	**0.50**	**3.50**	**3.25**	**2.00**	**1.50**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.00**	**0.00**	**0.00**
A4.1	Transitional support to utilties (Equity infusion, Provision of soft loans, Conversion of debt to equity, Commitment of subsidy for the year/specified period, Bonds for meeting deficit)	2.00	0.00	0.50	0.50	0.50	2.00	1.75	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0
A4.2	Formulation of Financial Restructuring Plan	**1.50**	**0.00**		**0.00**	**0.00**	**1.50**	**1.50**	**1.00**	**1.50**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0**
A5	**Implementation of Anti-Theft Legislation measures**	**3.00**	**0.00**	**0.00**	**1.00**	**0.00**	**1.00**	**0.00**	**1.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0**
A6	**Addition to Generation Capacity**	**3.00**	**0.00**	**0.00**	**3.00**	**0.00**	**0.00**	**3.00**	**3.00**	**0.00**	**0.00**	**1.50**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.5**

				15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
		Max score	Min score	Uttranchal	Tripura	Meghalaya	Uttar Pradesh	Haryana	Madhya Pradesh	Orrissa	Sikkim	Mizoram	Jharkhand	Arunachal Pradesh	Nagaland	Bihar	Manipur	Jammu and Kashmir
B	**Regulatory Process**	**9.00**	**(5.00)**	**4.00**	**(1.00)**	**(3.00)**	**3.00**	**2.50**	**6.00**	**5.00**	**(5.00)**	**(5.00)**	**0.50**	**(5.00)**	**(5.00)**	**(3.00)**	**(5.00)**	**(5.00)**
B 1.1	**Timeliness of Tariff Order**	**0.00**	**(2.00)**	**(0.50)**	**(1.50)**	**(2.00)**	**(2.00)**	**(1.50)**	**(1.00)**	0.00	**0.00**	**0.00**	(2.00)	**0.00**	**0.00**	**(2.00)**	**0.00**	-2
B1.2	**Submission of ARR for FY 2005-06**	0.00	(1.00)	(0.50)	(1.00)	(1.00)	(1.00)	(0.75)	(0.50)	0.00	0.00	0.00	(1.00)	0.00	0.00	(1.00)	0.00	-1
B2	**Implementation of Tariff Order**	**0.00**	**(2.00)**	**(1.00)**	0.00	**0.00**	**(1.00)**	**(0.50)**	**(0.50)**	**(0.75)**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**(2.00)**
B2.1	Upfront subsidy payment by state government (even if quarterly or monthly payment, it should be in advance)	0.00	(1.00)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-1
B2.2	Compliance of regulator directives	0.00	(1.00)	(1.00)	(1.00)	0.00	(1.00)	(0.50)	(0.50)	(0.75)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-1
B3	**Nature and Scope of Tariff Order**	**4.00**	**0.00**	**3.00**	**1.00**	**0.00**	2.00	**1.75**	**3.50**	**2.25**	**0.00**	**0.00**	**2.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
B3.1	Reduction in cross subsidy and tariffs tending to cost of supply	1.00	0.00	1.00	0.00	0.00	1.00	0.50	1.00	0.50	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0
B3.2	Merit-order despatch of power	0.50	0.00	0.50	0.50	0.00	0.50	0.50	0.50	0.50	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0
B3.3	Rationalisation of tariff slabs and TOD tariff	0.50	0.00	0.50	0.50	0.00	0.50	0.25	0.50	0.25	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0
B3.4	Increase in fixed charge component of tariff (Both at retail end and also in case of unbundled scenario at Transco level)	1.00	0.00	1.00	0.00	0.00	0.50	0.50	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
B3.5	Formulation of Multi-Year Tariff policy	1.00	0.00	0.00	0.00	0.00	0.50	0.00	0.50	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
B4	**Implementation of Electricity Act 2003**	**5.00**	**0.00**	**3.00**	**0.50**	**0.00**	**5.00**	**3.50**	**4.50**	**3.50**	**0.00**	**0.00**	**1.50**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
B4.1	Enforecement of performance standards of licensees under Section 57	1.00	0.00	0.00	0.50	0.00	1.00	0.50	1.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
B4.2	Monitoring the working of forum for redressal of Grievances of Consumers	1.00	0.00	1.00	0.00	0.00	1.00	0.50	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
B4.3	Appointment of Ombudsman and functioning of its office	1.00	0.00	1.00	0.00	0.00	1.00	0.50	0.50	1.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0
B4.4	Finalisation of Open Access Guidelines	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0
B4.5	Issue of State Grid Code Specifications	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
II	**Internal Factors**	**73.00**	**(12.00)**	**16.04**	**28.15**	**24.05**	**13.91**	**11.83**	**6.69**	**6.75**	**20.21**	**13.50**	**(1.50)**	**11.75**	**7.60**	**(0.28)**	**(3.08)**	**(2.35)**
C	**Business Risk Analysis**	**30.00**	**(7.00)**	**10.32**	**5.85**	**7.25**	**3.65**	**6.95**	**6.19**	**6.00**	**2.81**	**9.50**	**(0.50)**	**(0.60)**	**0.10**	**(0.53)**	**(0.83)**	**(2.45)**
C 1	**- Generation**	**6.00**	**(1.00)**	**0.00**	**1.00**	**6.00**	**2.25**	**3.25**	**5.00**	**3.00**	**0.75**	**2.50**	**0.00**	**0.00**	**0.00**	**0.38**	**0.75**	**0.00**
C1.1	AUXILIARY POWER CONSUMPTION (%)	1.00	0.00	1.00	1.00	1.00	0.75	0.50	1.00	0.75	0.75	1.00	0.00	0.00	0.00	0.00	0.75	0
C1.2	PLANT LOAD FACTOR (%)	2.00	0.00	0.00	0.00	0.00	1.00	1.00	1.50	1.50	0.00	1.50	0.00	0.00	0.00	0.00	0.00	0
C1.3	PLANT AVAILABILITY FACTOR (%)	2.00	0.00	0.00	0.00	4.00	0.00	1.75	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0

				15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
		Max score	Min score	Uttranchal	Tripura	Meghalaya	Uttar Pradesh	Haryana	Madhya Pradesh	Orrissa	Sikkim	Mizoram	Jharkhand	Arunachal Pradesh	Nagaland	Bihar	Manipur	Jammu and Kashmir
C1.4	> Manpower level per MW capacity-thermal (NTPC as benchmark)	0.50	(0.50)	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0
C1.5	> Manpower level per MW capacity-hydel (WAPCOS Report)	0.50	(0.50)	(1.00)	0.00	1.00	0.50	0.00	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
C 2	**- Transmission**	**1.00**	**(1.00)**	**0.90**	**0.80**	**0.50**	**0.40**	**1.00**	**0.90**	**(1.00)**	**0.00**	**(1.00)**	**0.00**	**(1.00)**	**(1.00)**	**(1.00)**	**(1.00)**	**(1.00)**
C2.1	Level of Interface Metering at 11 kV	0.00	(1.00)	0.00	0.00	0.00	0.00	0.00	0.00	(1.00)	0.00	(1.00)	0.00	(1.00)	(1.00)	(1.00)	(1.00)	-1
C2.2	Availability of Transmission	1.00	0.00	0.90	0.80	0.50	0.40	1.00	0.90	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
C 3	**- Distribution**	**23.00**	**(5.00)**	**9.42**	**4.05**	**0.75**	**1.00**	**2.70**	**0.29**	**4.00**	**2.06**	**8.00**	**(0.50)**	**0.40**	**1.10**	**0.10**	**(0.58)**	**(1.45)**
C3.1	QUALITY OF T&D NETWORK	4.50	(0.50)	1.44	1.75	0.00	0.30	1.20	0.36	0.00	(0.50)	1.75	0.00	1.00	1.50	0.00	0.00	0.05
C3.2	Units billed on metered basis/ Units input in the system	**4.00**	**0.00**	**2.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**4.00**	**0.00**	**4.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0**
C3.3	**> Redressal of Consumer Grievances**	**1.50**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.75**	**0.51**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
C3.4	**> Energy Audit (11 kV)**	**5.00**	**(1.00)**	**1.68**	**(0.20)**	**(0.50)**	**0.90**	**0.75**	**1.32**	**0.00**	**1.31**	**1.00**	**0.00**	**(0.10)**	**(0.40)**	**(0.50)**	**(0.08)**	**(1.00)**
C3.5	**>Aggregate technical & commercial losses (ATC) in % terms**	**5.00**	**(2.50)**	**2.50**	**2.50**	**1.25**	**(2.00)**	**0.00**	**(2.50)**	**0.00**	**1.25**	**1.25**	**(0.50)**	**(0.50)**	**0.00**	**0.00**	**(0.50)**	**(0.50)**
C3.6	**> Manpower in T&D**	**3.00**	**(1.00)**	**1.80**	**0.00**	**0.00**	**1.80**	**0.00**	**0.60**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.60**	**0.00**	**0**
D	**Financial Risk Analysis**	**20.00**	**(1.00)**	**3.25**	**9.25**	**8.25**	**3.88**	**4.13**	**0.26**	**0.00**	**7.75**	**3.00**	**0.00**	**10.25**	**8.00**	**2.50**	**0.75**	**0.00**
D 1	**> Gearing level (Total Debt / Adjusted Networth)**	**2.50**	**0.00**	**1.25**	**0.00**	**0.00**	**1.88**	**0.63**	**0.63**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0**
D 2	**> [Revenues from sale of power excl subsidy)/**	**5.00**	**0.00**	**1.25**	**1.25**	**2.50**	**0.00**	**0.00**	**0.63**	0.00	**1.25**	**0.00**	0.00	**0.00**	**0.00**	**0.00**	**0.00**	0
D 3	**- Actual track record of debt servicing**	**5.00**	**0.00**	**0.00**	**5.00**	**2.50**	**0.00**	**0.00**	**0.00**	0.00	**5.00**	**0.00**	0.00	**5.00**	**5.00**	**0.00**	**0.00**	0
D 4	**> Trends in Level of receivables (Days of sales)**	**3.00**	**(1.00)**	**0.75**	**3.00**	**2.25**	**(1.00)**	**(1.00)**	**(1.00)**	0.00	**0.00**	**3.00**	0.00	**2.25**	**3.00**	**(1.00)**	**0.75**	0
D 5	**Creditors**									0.00			0.00	1.5				
D 6	**> Funding of pension and gratuity liabilities**	**3.00**	**0.00**	**0.00**	**0.00**	**1.00**	**3.00**	**3.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.00**	**0.00**	**0**
E	**Others**	**7.00**	**(2.00)**	**1.17**	**0.25**	**1.75**	**3.38**	**2.75**	**1.25**	**0.75**	**0.25**	**0.00**	**(1.00)**	**(1.50)**	**(0.50)**	**(0.25)**	**(1.00)**	**0.10**
E1	**Non IT related**	**2.00**	**(1.50)**	**0.25**	**1.95**	**0.50**	**0.50**	**1.25**	**0.00**	**(0.25)**	**0.00**	**0.00**	**(1.00)**	**(1.00)**	**(0.50)**	**(0.50)**	**(0.50)**	**0.00**
E2	**IT Related**	**3.50**	**(0.50)**	**0.92**	**(0.25)**	**0.50**	**1.38**	**0.75**	**1.25**	**0.00**	**(0.50)**	**0.00**	**0.00**	**(0.50)**	**0.00**	**0.25**	**(0.50)**	**0.10**
E3	**Business Plan**	**1.50**	**0.00**	**0.00**	**0.00**	**0.75**	**1.50**	**0.75**	**0.00**	1.00	**0.75**	**0.00**	0.00	**0.00**	**0.00**	**0.00**	**0.00**	0
F	**Progress in attaining commercial viability**	**16.00**	**(2.00)**	**1.30**	**12.80**	**6.80**	**3.00**	**(2.00)**	**(1.00)**	**0.00**	**9.40**	**1.00**	**0.00**	**3.60**	**0.00**	**(2.00)**	**(2.00)**	**0.00**
F1	**Average Revenue Realisation - Average Cost of supply**	**4.00**	**0.00**	**0.80**	**2.40**	**2.40**	**0.00**	**0.00**	**0.00**	0.00	**2.40**	**0.00**	0.00	**0.00**	**0.00**	**0.00**	**0.00**	0
F2	**Same as above, in % terms (ARR - ACS) / ARR X 100**	**4.00**	**0.00**	**0.00**	**2.40**	**2.40**	**0.00**	**0.00**	**0.00**	0.00	**2.40**	**0.00**	0.00	**0.00**	**0.00**	**0.00**	**0.00**	0
F3	**Trends in ARR - ACS with 2001-02 as base year**	**4.00**	**(1.00)**	**(1.00)**	**4.00**	**2.00**	**1.00**	**(1.00)**	**(1.00)**	**0.00**	**3.60**	**1.00**	**0.00**	**3.60**	**1.00**	**(1.00)**	**(1.00)**	**0**

				15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
		Max score	Min score	Uttranchal	Tripura	Meghalaya	Uttar Pradesh	Haryana	Madhya Pradesh	Orrissa	Sikkim	Mizoram	Jharkhand	Arunachal Pradesh	Nagaland	Bihar	Manipur	Jammu and Kashmir
F4	Trends in Adjusted Book Loss reduction with 2001-02 as base year	4.00	(1.00)	1.50	4.00	0.00	2.00	(1.00)	0.00	0.00	1.00	0.00	0.00	0.00	(1.00)	(1.00)	(1.00)	0
	SCORE Part I (75% of Total Score)	**100.00**	**(25.00)**	**23.08**	**32.68**	**22.55**	**24.51**	**16.33**	**18.30**	**15.00**	**16.04**	**9.50**	**(2.00)**	**4.55**	**4.25**	**(4.08)**	**(8.89)**	**(9.58)**
	PART II																	
A	Sustainability of state power sector revenue model			14	8.00	32.00	0.00	24	18.00	16	8.00	0.00	12	0.00	0.00	0.00	0.00	0
B	Creation of competitive environment			25	0.00	0.00	24.00	22	15.00	24	0.00	0.00	10	0.00	0.00	0.00	0.00	2
	SCORE Part II (25% of Total Score)	**100.00**	**0.00**	**39.00**	**8.00**	**32.00**	**24.00**	**46.00**	**33.00**	**40.00**	**8.00**	**0.00**	**22.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.00**
	FINAL SCORE	**100.00**	**(18.75)**	**27.06**	**26.51**	**24.91**	**24.38**	**23.75**	**21.97**	**21.25**	**14.03**	**7.13**	**4.00**	**3.41**	**3.19**	**(3.06)**	**(6.67)**	**(6.69)**